THE

GEOGRAPHICAL MAGAZINE.

EDITED BY

CLEMENTS R. MARKHAM, C.B., F.R.S.

VOLUME V.—1878.

ILLUSTRATED WITH FOURTEEN MAPS.

LONDON:

TRÜBNER & Co., 57 AND 59, LUDGATE HILL, E.C.

1878.

A LANGUAGE MAP OF INDIA AND ITS BORDER LANDS

Scale of English Miles

REFERENCE

GROUPS

Aryan	Colored
Dravidian	
Kolarian	
Tibeto Burman	
Khasi	
Tai	
Mon anam	

NOTE. *The Tibeto-Burman between the Kali and Trisul Ganga rivers in Nepal is mixed with Nepalese or Khas.*
Names in brackets are dialects of the [illegible] *denoted by the name in larger type.*

All rights reserved

A LANGUAGE MAP OF INDIA AND ITS BORDER LANDS

Scale of English Miles

REFERENCE

GROUPS	
Aryan	Colored
Dravidian	"
Kolarian	"
Tibeto-Burman	"
Khasi	"
Tai	"
Mon-anam	"

NOTE. *The Tibeto-Burman between the Kali and Teesul Ganga rivers in Nepal is mixed with Nepalese or Khas. Names in brackets are dialects of the class denoted by the name in larger type.*

TIBETAN
HORPA
SOKPA
THOCHU
GYARUNG
MINYAK
TSANGLA
KHAMTI
SINGPHO
BHOTAN
KACHARI
GARO
KHASI
MANIPURI
PALOUNG
SHAN
BURMESE
MANDELAY
PANJABI
HINDI
BENGALI
ORAON
SANTHALI
KURKU
GONDI
JUANG
KHOND
SAVARA
MARATHI
HYDERABAD
GONDI
KANARESE
TELUGU
TAMIL
MALAYALAM
CEYLON
SINHALESE
ANDAMAN ISLANDS
NICOBAR ISLANDS
SIAMESE
KAREN
KAMMU
LENET
KHMUS
TAKPA
MISHMI
KAMPTI
KHAMTI
SHARPAKHEN
KAKHYENS
LISAW
KHAMTI
SINGPHO
PALOUNG
SHAN
KIANG
KIANGMAI or ZIMME
LAMEAM
MARTABAN
GULF OF MARTABAN
PREPARIS I.
Kulkun M.
Kuen Lun
Tengri Nor
Mansarowar L.
Yarrow or Sanpoo
L. Palte
Shanglatshe
Shiggatzee
Lassisudon
Chumalari Mt.
Dhaulagiri M.
Kanchinjinga
Mt. Tasineshan
Yehlung R.
Kin-sha R.
Lan-tsan R.
Nou-kiang R.
Tali
Yunnan
Suifu
Bamo
Momien
Bhamo
Kiang
Amarapura
Ava
Prome
Sittang R.
Martaban
Moulmein
Amherst
Tavoy
Mergui
Ye R.
Tenasserim R.
Salwen R.
Menam R.
Ishthmus of Kraw
Junkseylon
Acheen
Nicobar
Calcutta
Sunderbunds
Balasore
Cuttack
Ganjam
Chilka L.
Araean R.
Araean Mts.
Bassein
C. Negrais
Pegu
Irrawaddy R.
Brahmaputra R.
Tsangpo R.
Dihong R.
Dibong R.
Lohit R.
Kiu-lung R.
Yaru R.
Tsangpo R.
Kipili
Thuka
Kipigrah
Tipuk
Blue
Shendu
Banjogi
Kvau
Sak
Khari
Kyeng
Tipuk
Tura
Garo
Khasi
Manipuri
Thado
Mikir (Rengma)
Angami (Katcha)
Lhota
Changlo
Dophlia
Aka
Miri
Abor (Mjhu)
Kamptee
Khamti
Singpho
Lepcha
Lhasa
Kirata
Vayu
Limbu
Kusunda
Magar
Gurung
Sunwar
Murmi
Kuswar
Kuri
Kur
Kurku
Hindi
Juang
Bhumij
Ho
Santhali
Oraon
Korwa
Kharia
Mundari
Savara
Gond
Khond
Kurku
Tulu
Malabar
Canara
Coromandel
Madras
Arcot
Pondicherry
Tranquebar
Karical
Tanjore
Trichinopoly
Madura
Tinnevelly
Salem
Seringapatam
Bangalore
Hyderabad
Golconda
Sholapore
Jeypore
Ganjam
Cuttack
Balasore
Sunderbunds
Calcutta
Hooghly R.
Burdwan
Moorshedabad
Rajmahal
Bhagulpore
Monghyr
Patna
Benares
Allahabad
Lucknow
Cawnpore
Agra
Delhi
Panipat
Thanesir
Kurnaul
Loodiana
Ferozepore
Lahore
Mooltan
Jhelum
Attock
Peshawur
Cabul
Jellalabad
Kafir
Ghuznee
Candahar
Khelat
Beloochistan
Punjab
Rajpootana
Jeypore
Joudpore
Ajmere
Gwalior
Jhansi
Oojein
Indore
Baroda
Surat
Nagpore
Berar
Nerbudda R.
Godavery R.
Kistna R.
Beejapore
Belgaum
Goa
Dharwar
Canara
Mahe
Calicut
Cochin
Travancore
Cape Comorin
Gulf of Manaar
Palk Strait
Trincomalee
Candy
Galle
Colombo
Adam's Peak
Pedda talla galla Mt.
Ceylon
Maldive Islands
Laccadive Islands
Indus R.
Sutlej R.
Jhelum R.
Chenab R.
Ravee R.
Ganges R.
Jumna R.
Gogra R.
Gunduck R.
Soane R.
Chumbul R.
Taptee R.
Mahanuddy R.
Godavery R.
Kistna R.
Pennair R.
Cauvery R.
Vygar R.
Tambrapurni R.
Periyar R.
Bhurrampooter R.
Brahmapooter R.
Irrawaddy R.
Salwen R.
Menam R.
Cambodia
Siam
Siamese
Burmese
Karen
Kammu
Lenet
Khmus
Tropic of Cancer
Equator
70
80
90
100
30
20
10

THE

GEOGRAPHICAL MAGAZINE.

JANUARY, 1878.

LANGUAGE-MAPS OF THE EAST INDIES.

I.

British India and its Border States.

Physical, Political, Geological, and Ethnical Maps meet the eye constantly: this is an attempt to produce a Language-Map, to ascertain the number of distinct vernacular languages spoken at the present time within the East Indies in its widest sense; to group them in families; exclude dialects, which are but variations, more or less marked, of the same language; define the areas, accurately or approximately, within which such languages are spoken; and state the number and religion of the population, where reliable data are forthcoming.

The idea is not entirely a novel one: Sir Erskine Perry in 1853, and Mr. Beames, of the Bengal Civil Service, in 1868, made meritorious attempts to produce such a map of British India; but their scale was small, and their information limited. In the last quarter of a century linguistic science and statistics have made great strides; and those, who are responsible for the language-maps in this and the succeeding number of the *Geographical Magazine*, have freely laid under contribution their numerous official friends in every part of India, in England, in France, and in Holland; they have had access to the libraries of the India Office, and the Asiatic and Geographical Societies; and have striven to enter no language, of which there does not exist a vocabulary, and state no fact unsupported by the best attainable authority at the present date.

Notice of the linguistic features of such languages, and their inter-relation with each other, will find a more suitable place in the pages of the Journals of the Asiatic and Philological Societies, or in separate treatises: one *dictum* only of linguistic science is exhibited in this map, viz., the indication by colour of the families, to which such languages are held to belong; but the reason for so grouping them lies beyond the scope of this magazine, which deals only with the positive fact of the distribution of the speakers of language, and not with the inductions founded on a critical examination of different languages.

The authorities consulted are the following:—

1. *Kafiristan.*—Dr. Trumpp, in *Journal of Royal Asiatic Society:* Map of Central Asia.
2. *Kashmir Frontier.*—Mr. Drew's *Jummoo and Cashmere*, Colonel Cunningham's *Ladakh*, Dr. Leitner's *Dardistan.*
3. *Sind Frontier.*—Map supplied by the Commissioner of Sindh; *Sindh Gazetteer;* Hughes's *Baluchistan.*
4. *Punjab Frontier.*—Map supplied by the Commissioner of Peshawur, and Note by Dr. Bellew.
5. *Bengal.—Census Report of* 1872.
6. *Bombay.—Administration Report of* 1872-73, with Note by the late Dr. John Wilson, of Bombay; *Census Report of* 1872.
7. *Madras.—Census Report of* 1871; Bishop Caldwell's *Comparative Grammar.*
8. *Mysore.*—Rice's *Mysore and Coorg.*
9. *Ceylon.*—Sir Emerson Tennant's *Ceylon.*
10. *Chota Nagpur.*—The Personal Instructions of Colonel Dalton, late Commissioner; *Census Report*, 1872.
11. *Central Provinces.—Census Report of* 1872, and *Central Provinces Gazetteer.*
12. *Nepal Frontier.*—Essays of Bryan Hodgson, late Resident of Nepal, in the *Journal of Bengal Asiatic Society.*
13. *Eastern Frontier of Bengal.*—N.E. Frontier Map, and the Personal Instructions of Major Godwin Austen, Surveyor of Assam; *Census Report of* 1872.
14. *Munipur Frontier.*—Report of Colonel M'Culloch, Civil Officer of Munipur; *Records of Government of India.*
15. *Chittagong Frontier.*—The Personal Instructions of Captain T. H. Lewin, Deputy-Commissioner of Hill Tracts, and his book.
16. *Burmese Frontier.*—The Personal Instructions of Major G. Fryer, Deputy-Commissioner of Sandoway, and Captain Forbes, Deputy-Commissioner of Shwegyeen.

All these personal and written authorities have been carefully consulted and tested, and the results entered on the Index Map of British India supplied from the India Office, by Mr. E. L. Brandreth, late of the Bengal Civil Service, who has also superintended the construction of this map by Mr. Stanford, of Charing Cross. The number of books and essays in different journals which have been examined, in addition to those mentioned above, is very considerable. No pains have been spared.

And yet this map is only put forward as a first attempt to grapple with a great subject, and a target to receive the shafts of the local authorities in every part of India. Some will hit the red; some will aim at the blue: the object of the undersigned, and his friend above mentioned, is to touch the golden mean

of approximate, if not actual, accuracy; and no one will sit in severer judgment on this map than those, who have undertaken to compile and publish it, looking to future editions for annually increasing precision, and determined to arrive at some correct results on this important branch of knowledge.

Seven families of languages are exhibited by colours in this map:—

1. Aryan—*Red.*
2. Dravidian—*Green.*
3. Kolarian—*Sienna.*
4. Tibeto-Burman—*Blue.*
5. Khasi—*Brown.*
6. Tai, or Shan—*Purple.*
7. Mon—*Yellow.*

Of these the five first alone will be noticed in the remarks of this month: the two latter will appear in their fuller development in the second map of "Further India, and the Indian Archipelago," which will form part of the next number of this magazine. We proceed to notice these five families in order.

1. The Aryan family, also called the Indo-European, comprises many famous branches, two only of which come under present consideration: one the "Iranic" in part, and the other, the "Indic," in totality. Of the Iranic we have as representatives, the Pashtu or Pukkhtu, and the Baluchi. The bulk of the population which speak these languages, and speak them in their purest form, dwell outside the limits of British India in the independent States of Afghanistan and Kilat, but a certain portion of British subjects speak Pashtu in the divisions of Peshawur, the Derajat, and Rawulpindee, in the Province of the Punjab, and a certain portion of British subjects speak Baluchi in the lower portion of the division of the Derajat, to the number of 235,000, and the upper portion of the Sindh division of the Bombay Province, to the number of 145,000. They are Muhammadans.

The Indic branch of the Aryan family consists of seven great and seven less important languages. They are as follows:—Punjábi, Sindhi, Hindi, Bengali, Uriya, Maráthi, and Gujaráti are spoken by scores of millions, over a compact area, which is, perhaps, the largest, the most populous, and wealthiest linguistic platform in the world. Kafiri, Dardui, Kashmíri, Brahúi, and Sinhalese, are undoubtedly distinct languages, but spoken by a limited population only. Nepalese and Assamese might be treated as dialects of Hindi and Bengali respectively; but it has been deemed expedient to class them provisionally, in the present state of our knowledge, as languages.

The Punjábi is spoken by a Hindu and Muhammadan population of sixteen millions, resident in the lower ranges of the Himalayas, and the plains intersected by the five famous rivers, which give that province its name. There is a great variety of ill-defined dialects, but the Dogri of the Lower Hills, and the Mooltani—which last occupies a transitional position towards Sindhi—are very distinct. The Sindhi is spoken by a population of one million and three-quarters, of which one-fifth is Hindu and the remainder Muhammadan, residing on either side of the lower course of the River Indus, in the Sind division of the Province of Bombay. It is spoken also by the inhabitants of the Peninsula of Kach, an independent State, amounting to half-a-million, who are Hindu, and by a certain number of the Muhammadan subjects of the independent State of Kilat. It has several clearly-defined dialects, one of which, Kâchi, is transitional to Gujaráti. The Hindi is that magnificent language, which is spoken, in its pure form and its numerous dialects, by a population of seventy millions, the majority of whom are Hindu, but there are many millions of Muhammadans. It occupies an area larger than that of France, and so central a position, that it impinges upon every one of its six great Indic sister-languages, and overspreads a portion of the Province of Punjab, the whole of the North-West Provinces, with Oudh, a portion of the Province of Bengal, a part of the Central Provinces, the whole of the States of Rajputana, Bundelcund, and Bhagélcund, the Rajpoot States of the Hills, and the two great Maratha States of Indore and Gwalior. One of its dialects, Urdu, or Hindustani, as the *lingua franca* of India, has a still wider development. The Bengali is spoken by a population of thirty-seven millions, a little more than half of whom are Hindu, and the remainder Muhammadan, inhabiting the delta of the Rivers Ganges and Brahmaputra, in the Province of Bengal. It has dialectical varieties, but no clearly-defined dialects. The Uriya language is spoken by eight millions in the Provinces of Bengal and Madras, and in the Central Provinces, who are chiefly Hindu. It has no defined dialects. The Maráthi spreads across the peninsula within the limits of the Province of Bombay, the Central Provinces, and the independent State of the Nizam. It is spoken by a population of ten millions. It has well-defined dialects, one of which, the Konkani, has almost assumed the rank of a language. The Gujaráti is the least important of the seven great Aryan vernaculars. It is spoken by a population of six millions, chiefly Hindu, in the Province of Bombay and the independent State of Gujarát. It has also a more extended use as the language of the Parsees, and of commerce in Western India.

Of the smaller Aryan languages, Kafiri is spoken by the Siah-Posh Kafirs, savage Pagans, outside the frontier of British India. Dardui and Kashmiri are spoken by a population of one and a half million, Hindu and Muhammadan, within the boundaries of the independent State of Kashmir. Brahui is the language of a Muhammadan population in the independent State of Kilat. Sinhalese is the language of the population of the southern half of the Island of Ceylon, an English colony, amounting to one and three-quarter millions, chiefly Buddhists, and of the inhabitants of the Laccadive and Maldive Islands.

Nepalese is the language of the dominant tribe of the Goorkha independent State, in the lower ranges of the Himalayas, and is spoken chiefly by Hindu, of a number quite uncertain. Assamese is the language of the inhabitants of the Valley of Assam, chiefly Hindu, and amounting to two millions, in the Province of Assam.

2. The Dravidian family consists of four great and eight less important languages. The former are as follows: Tamil, Telugu, Kanarese, Malayálim. The latter are: Tulu, Kudagu, Tuda, Kota, Khond, Gond, Oraon, and Rajmahali. The Tamil language is spoken by a population, chiefly Hindu, of fourteen and a half millions in the Province of Madras, and the northern portion of the English colony of Ceylon. The Telugu is spoken by a population chiefly Hindu, amounting

to fifteen and a half millions, in the Province of Madras, the Central Provinces, and the independent State of the Nizam. The Kanarese is spoken by a population of nine millions and a quarter, chiefly Hindu, in the Provinces of Bombay and Madras, and the independent States of Mysore and the Nizam. The Malayálim is spoken by a population of three millions and three-quarters in the Province of Madras and the independent States of Cochin and Travancore, chiefly Hindu. Of the eight smaller languages the Gond is spoken by a population of one and a half million on the confines of the Provinces of Madras, Bengal, and the Central Provinces, who are Pagans. The remaining seven are spoken by a population of about a million Hindus and Pagans, scattered over the Provinces of Bengal, and Madras, and the Central Provinces in small patches, from Rajmahal on the Ganges to the Hills of Ootacamund, thus testifying to the enormous area over which this family has extended at some period of its history.

3. The Kolarian family consists of seven languages, spoken by a population scant in number, backward in civilisation, and Pagans, in the Provinces of Bengal and Madras and in the Central Provinces. They are as follows: Sonthal, Mundari (known also as Ho, Kol, and Bhumij), Kharia, Juang, Korwa, Kur or Kurku, and Savara. Their number is inconsiderable, and short of a million, but great interest attaches to the language and future prospects of this non-Aryan people, the survivors of the Aryan immigration.

4. With the Tibeto-Burman family, under the pressure of various circumstances, a different method is had recourse to. No name has been entered on the map, of which a vocabulary does not exist; but on the other hand, in dealing with forms of words taken down orally from the mouths of persons without culture, and possessed of no form of handwriting, it cannot be predicated with certainty, in the state of our existing knowledge, whether some are not mere dialects of one general language. On the other hand, the use of tribal names may lead into the error (which certainly exists as regards the Nagas) of lumping together totally distinct languages. For the sake of clearness we divide this family into four groups, upon *geographical* and not linguistic data.

(I.) Regions of the Himalayas, from the R. Chenab to Bhotan.

(II.) The horse-shoe valley of the Brahmaputra, and its borderers.

(III.) The Munipur and Chittagong hill-tracts.

(IV.) Burmah.

It may appear but a detail of names; but it is believed, that these names represent facts, some of them important, and all interesting. In the first group, situated in the Province of the Punjab, the North-West Provinces, and the independent States of Tibet, Kashmir, Nepal, Sikkim, and Bhotan, there are fourteen languages—Tibetan or Bhotiya, Kanawari, Surwar, Gurung and Murmi, Magar, Kusunda, Chepang, Pahri, Newar, Bhramu, Kiranti, Vayu, Limbu, Lepcha. With the exception of the first and the last, these languages are spoken by a hill-population in a backward state of civilisation, partly Hindu, partly Buddhist, and partly Pagan. The first on the list, Tibetan or Bhotiya, is a language of the greatest importance, spoken over an enormous area outside the frontier of British India by a Buddhist population, of which we have no means of estimating the number. The last on the list is a vernacular of promise spoken by the people of Sikkim, about 7000 in number. In the second group, situated on the frontier of the Province of Assam, there are fifteen languages—Dhimal, Kachari, Aka, Deoria-Chutiya, Dophlia, Miri, Abor, Mishmi, Singhpo or Kakhyen, Naga, Liyang, Marung, Mikir, Garo, Pani-Koch. The number of each tribe is quite uncertain: they are generally uncivilised and Pagans; some are downright savages. In the third group, lying partly in the Province of Bengal and partly outside the frontier of British India, there are ten languages—Munipúri, Kapui, Tangkhul, Luhupa, Tipura, Kuki, Shendu, Banjoge, Sak, and Kyau; to which the same remarks will apply as were recorded for the second group. In the fourth there are the Burmese, with its well-defined dialects, and its congeners of the hills, the Khyen, Kumi and Mru, and the Karén, consisting of several well-defined dialects, spoken by a population in British Burmah of two millions and a half, chiefly Buddhist, with a sprinkling of Hindu, Pagans, and Muhammadans, and in the independent state of Burmah by a population of three and a half millions, chiefly Buddhist. To this group must be added, for the sake of exhausting the subject, the Mergui language, spoken by the scant population of the Mergui Islands, and the languages of the Nicobar and Andaman Islands, which are spoken by a population of about 8000. A fifth group might be formed of the languages lying entirely beyond the frontier and influence of British India, such as the Horpa, Manyak, and Gyarung, &c., which appear on the map, and of which we know little except their existence. Thus the Tibeto-Burman family contains a list of forty-four names, which might have been indefinitely expanded, had not all evident dialects been excluded.

5. In the Khasi family is one single language, spoken by a tribe on the southern frontier of Assam, who are grouped in twenty-five little republics, and has a population of about 85,000.

It would be of no advantage to detail the precise boundary line of each language, for the map is on two small a scale to define it with any degree of accuracy, nor would it be possible, with our present information, to do so. The great Aryan and Dravidian languages, respectively, melt, as it were, imperceptibly into their sister-languages, and on the border-land there is no doubt a dialect partaking of the characters of both. Minute local enquiry is necessary to define the precise town or village where a language of one family ends and that of another commences; and it would require very nice local knowledge of the physical features of the country, the ethnical features of the people, and the political circumstances of the province, to explain, how the present distribution of languages came about.

There are remarkable intrusions of one language into the area of another, and overlappings, which it is not easy to explain. Many of the aboriginal tribes of Central India have given up their language, and adopted a mongrel Hindi, and the same state of things is reported of the wild, and possibly pre-Dravidian tribes of the south of India. The Veddahs of Ceylon speak a dialect of Sinhalese, and the original language of that island, colonised by Aryans,

and Dravidians within historic times, has disappeared. But such linguistic anomalies are found everywhere, and now that civilisation and education are in progress we may expect further changes on the Language Map of British India, and the absorption of some of the weaker members of each family.

ROBERT CUST.

THE NORTH-WESTERN FRONTIER OF INDIA.

EVER since the British occupation of the Punjab and Sind, the western frontier of India has been kept in a state of continual disturbance by the lawless tribes beyond it. The boundary line was drawn as much as possible in the plains, so as to avoid collision with the unruly highlanders; and it may have been expected that, being left to themselves, they would have remained contented among the hills, and not have ventured on attacking the well-guarded British districts in the lowland. Being also recognised as subjects of the Afghan and Baluch sovereignties, it might have been presumed that those native Governments would find the means of exercising such a control over these borders, as at least to prevent them from causing trouble to their powerful British neighbour, especially as the rulers of Kabul and Kilat might depend on British India for reasonable aid in endeavouring to keep the peace for the common benefit.

But although there has been from time to time, and there still is, some hope that the Khan of Kilat may in the future realise this expectation, there never was the slightest foundation for anticipating such a result from the Amir of Kabul, that has not been invariably disappointed. Besides being powerless to extend his authority up to the Indian frontier, and to restrain the turbulent tribes who trouble us, each Amir in succession has proved to be utterly faithless; and when we have been but too ready to accord our liberal aid, it has only been to find it turned against ourselves. Such, indeed, is the testimony of every authority to the national character of the Afghans, that it seems unwarrantable to expect any other treatment. At length it appears that the Indian Government have resolved upon reconsidering the organisation of the North-Western Frontier; and no doubt the whole subject will be thoroughly and fairly discussed in the full light of the knowledge and experience gained in the past, and especially during the last thirty years.

The circumstances of the present day are widely different from those which influenced the selection of the existing boundary line, and dictated our policy towards the tribes beyond. Then the Punjab had only been recently acquired, and British administration had to be organised and consolidated within limits involving the least amount of opposition, and admitting of the prompt establishment of peace. The few alterations which have been made since, have been forced upon the Government by the same conditions as those which now cry aloud for adjustment: namely, the offences of the tribes that were left beyond the British boundary, and were supposed to be subject to the Amir of Kabul, but who have proved to be quite beyond the reach of his influence or authority. The recent approximation of another great European power towards the disturbed frontier, now gives to its settlement an increased importance, and is of itself a sufficient motive for undertaking the task.

The Indian side of the frontier is included within the British Divisions or Commissionerships of Sind, Derajat, and Peshawur, and the native dependency of Kashmir. The Sind frontier is divided between the districts of Karachi, Shikarpur, and Upper Sind. Derajat has the districts of Dera Ghazi Khan, Dera Ismael Khan, and Bannu. The Peshawur districts are Kohat, Peshawur, and Hazara. The Governorship of Gilgit comprehends the Kashmirian part of our frontier. At present, Sind is under the Government of Bombay, while Peshawur and Derajat are subordinate to the Lieutenant-Governor of the Punjab, and are thus more directly amenable to the Governor-General. The entire range of the frontier is, however, naturally connected by the great river Indus, which has Karachi for its seaport; and this union will be still further promoted by the connection of the Sind Railway with the Punjab line by the Indus Valley Railway.

Beyond the British boundary, Sind is in contact with Baluchistan, to which it is not intended to allude further on the present occasion. It is to the tribes and States on the Punjab frontier that we wish to call attention, with a view of showing that while we have been attributing the sovereignty over them to the Amir of Kabul, that potentate is almost entirely disowned from one end of the frontier to the other, and is utterly incapable of keeping the peace up to our limits, or even beyond a certain line. This line it is our present purpose to define, in order that the just and proper mode of dealing with the independent borderers between India and the actual limits of Afghan authority may be rationally considered.

The independent territories in question are all mountainous, and are naturally divided into two parts, by the Kabul River and the Plain of Peshawur. The situation of the city and fortress of Peshawur, in the midst of the plain, has brought under the rule of the British Commissioner a considerable tract to the south of the river, including the district of Kohat. It will, nevertheless, be convenient to treat of the group of independent highland communities north of the river separately, and this we proceed to do.

This group extends from the British boundary along Hazara and Gilgit on the east, to the extremity of Kafaristan on the west, and from the Plain of Peshawur on the south to the Hindu Kush on the north. There can be no question that Kafaristan (said to be called Wamastan by the natives) has always maintained its independence from the earliest times, in mortal defiance of the surrounding Muhammadans. The people have displayed the most friendly disposition towards the British, of which, however, but little, if any, advantage has hitherto been taken. It may be well to note particularly that Russian fire-arms are said to have already found their way into these impregnable fastnesses, the independence of which it is so much our interest to protect and secure.

There is no occasion for saying, as a recent writer does, that "the Kafars give us no trouble," for their nearest frontier is at least forty miles from ours, and the intermediate country is occupied by warlike mountaineers, who have been hitherto hostile

to them, but might be reconciled. Neither are we concerned because the Kafars hold the Chitral or Birughil Pass, on the Hindu Kush, for they do not. Nor can it be true that their number amounts to a million, which would be nearly one-fourth of all Afghanistan, it is probably only one-tenth of that number. More absurd is the remark of the same author, that the occupation of the Chitral or Birughil Pass by the Rajah of Kashmir, would be the best arrangement for pacifying the Yusufzai tribe, who are settled two hundred miles away from it, in and along the Peshawur district. It is upon no such false pretences as these that India can claim any concern in the future of Kafaristan. It is because that country is a salient, impregnable, and especially commanding portion of the continuous group of independent highlands which lie between the British frontier and the Hindu Kush, dominating all the mountain passes between the Oxus and Indus basins, and therefore making it highly desirable that the whole group should be in friendly connection with the Indian Government.

Kafaristan occupies the most western part of these independent highlands, where the summits of the Hindu Kush coalesce with the lofty extremity of the Himalaya. It caps the mountainous region of Badakshan in the Oxus basin; overlooks most of the passes at the head of the Kabul River and the main stream itself, together with the lower course of its principal affluent—the Kunar River. Its people are of a primitive race and quite distinct from the Afghans, whose rule they defy, and whose Muslim faith they reject. Their language is said to be of Sanscrit origin; their fidelity is proverbial, and in striking contrast with the notorious treachery of the Afghans. Neither these people, nor their neighbours in Chitral, will ever submit to the Afghan yoke, but they have displayed a marked partiality for Europeans; and if we neglect their friendship, we cannot complain if the Russians accept it, and give them the protection which we have so far tacitly refused.

The next member of the highland group, on the eastern border of Kafaristan, is Chitral, situated, like it, between the summits of Hindu Kush, and the culminating ranges of the Himalaya. The Kunar River here divides the two mountain systems, until it turns southwards through the Himalaya to join the Kabul River near Jelalabad. The authority of Chitral extends eastward beyond the sources of the Kunar into Yasin, which lies at the head of the Gilgit River, and joins the British dependency of Kashmir. The Chitrali, like the Kafars, are a distinct people from the Afghans, and, although Muhammadans, they remain quite free from Afghan influence. Thus without abstracting an inch from the actual dominions of the Amir of Kabul, it may be possible to establish such a friendly connection with Chitral and Kafaristan, as would serve to secure the mountain passes in more faithful hands than those of the Afghans, as far west as the head of the Kabul River at least, and practically perhaps as far as Bamian.

The remainder of the group occupies the mountains between the frontier of the Peshawur Division and the summit of the Himalaya. Starting from the British district of Hazara, there are first a few petty tribes on the left bank of the Indus, including Chilas. Next are the petty tribes on the right bank of the Indus, extending from Gilgit and Yasin to Peshawur, and including Dilel and Buner. Then comes Swat, Panjkora, and Bajawar, the latter adjoining Kafaristan.

It is here of importance to understand that the valley of the Indus, with its branches, as well as the great river, are now wholly in foreign territory from the point where the British or Kashmir boundary crosses the river at the roots of Nanga Parbat Mountain, down to the confluence with the Indus of the Barrando River, which joins it from the State of Buner, on the right bank. The passage of the Indus is thus placed beyond British surveillance or control for a length of not less than 150 miles, the British boundary being seldom less than 30 miles distant throughout that extent. For a further distance of about 24 miles the left bank only is in British possession, the right bank being held by the chiefs of Buner. The passage of the river, with its ferries, is thus left open for a considerable distance; and the mischief that may arise in consequence was sufficiently proved by the raid of the Hindustani fanatics. There would probably be little difficulty in establishing friendly relations with these Indus tribes, including the more important chiefs of Buner.

The Swat territory is said to stretch up to the summits of the Himalaya, and to extend to the Indus on the north of Buner. The aged Akoond of Swat, who was formerly in league with the fanatical Muhammadans in various parts of India, seems to have become aware that his own authority is endangered by a colony of these intriguers, and he appears to have become sensible of the value of our friendship. Panjkora and Bajawar lie between Swat and Kafaristan, the former stretching up to the summits of the Himalaya and touching Chitral. We do not care to raise a question about the doubtful allegiance of Umankheel, Momund, and others near the Kabul River, as these may be left to fall into their places in any arrangement for the settlement of the group of territories, about the independence of which there can be no doubt.

We have thus begun to point out some of the facts that serve to define the real limits of Afghan sovereignty, after unavailing attempts for thirty years to make those limits conterminous with the boundary which it appeared convenient to fix for ourselves. We have traced one distinct block of highland States, where the Amir of Kabul cannot exercise a vestige of the authority that we have chosen to attribute to him. Indeed, any attempt to do so could only be made with our concurrence, and would certainly fail except in making the British as much hated as the Afghans. On the other hand, we alone are competent to aim at bringing about a peaceful settlement of the existing native interests on the basis of our common security. Our own interests, receiving an impulse from the closer approximation to India of another great European power, now call upon us to decide promptly upon the future of this group, and its relations to British India. We recommend it to be treated as an independent group of Hill States, connected with India by ties of mutual advantage, which we doubt not can be effectually settled in due time.

Before taking into consideration the next part of the Afghan frontier towards the south, it is deemed necessary to invite some attention to the countries which adjoin Kafaristan and Chitral, on the northern slopes of the same mountain system, the Hindu Kush. These are Badakshan and Wakhan, which, although intimately connected with Chitral and the Kafars by race and circumstances, have recently been allotted to Afghan-Turkistan by Anglo-Russian diplomacy. No discussion of the settlement of this part of the North-West Frontier would be complete which neglected this branch of the subject.

The Afghans having acquired part of Turkistan, containing Balkh and Kunduz, in the lowland plain of the Oxus, laid claim to the mountainous countries of Badakshan and Wakhan, which bear much the same relation to the Oxus lowland, in regard to increasing altitude, that Kashmir and Balti bear to the plains of the Punjab. The Russians having also established themselves on the Jaxartes, in the northern part of Turkistan, and having gained an influence over Bokhara, which borders on Balkh, it was considered desirable that an arrangement of the limits of Afghan-Turkistan should be made in conformity with the wishes of the two European powers.

At this time such a liberal subsidy had been accorded by the Government of India to the Afghan Amir as to warrant the assurance that reliance might be placed on his fidelity and friendship, and it became the fashion to regard Afghanistan as forming a convenient neutral zone between the opposite political and commercial principles of Russia and England. We are now compelled to think differently.

It also happened that the occupation of Northern Turkistan by Russia, subjected to her monopolizing commercial tariff, one of the two continental highways, by which trade mainly traverses the interior of Asia. This is the Jaxartes route, as it is commonly called, extending from China in the east, through Kashgar and Kokand, to Bokhara and the west. The second and alternative route also proceeds westward from Kashgar, passing through Yarkand and reaching Bokhara and the western trade, by way of the Oxus and Balkh. When the passage of European commodities other than Russian, became obstructed or stopped by way of the Jaxartes, the Oxus route of course acquired increased importance.

Nevertheless, when the northern limits of Afghan-Turkistan came to be discussed, it was proposed by the English Foreign Office on the recommendation of the Indian authorities, in spite of remonstrance, that the boundary should be drawn along the River Oxus and its southernmost headwater, up to the summit of the Hindu Kush. The passage along the Oxus between Balkh and Yarkand, would thus have been effectually intercepted, including indeed all the lines of communication north of the Hindu Kush, and the influence of Russia would have been carried, at our own instigation, right across the Oxus basin, nearly up to the British boundary. Fortunately, this mischief was at the last moment prevented by the interposition, it is said, of Sir Henry Rawlinson, who succeeded so far as to get the Anglo-Russian boundary of Afghan-Turkistan diverted from the southernmost headwater of the Oxus, to the next stream on the north, which flows from Wood's Lake Victoria. Thus a narrow passage was retained along the Oxus, through Badakshan and Wakhan, for the transit of trade between Balkh and Yarkand, free from the obstruction of the Russian tariff.

But although a free passage was secured, a part of Wakhan was sacrificed to the idea of making the Oxus the boundary. It cannot have been considered that the inhabitants of a narrow mountain vale, are equally concerned in both sides of it; and that the subsistence of the people and everything connected with their welfare, demand that the whole of the valley and of the territories annexed to it should have been dealt with intact. From our point of view, it should be the object of British diplomacy among these ancient highland clans, to make their interests and welfare identical with our own,—and not to treat them as if they had no more feeling than the rocks which form their fastnesses, their homes, and the tombs of their ancestry. These people have survived all the destructive irruptions of the barbarians who have overrun Asia, and their antiquity, at least, is denoted by their claim of descent from Alexander the Great. It is a strange and uncomfortable reflection that after surviving so many perils, Badakshan and Wakhan should be allotted to the plundering Afghan by the advice and concurrence of the British, and Wakhan itself partitioned without the slightest necessity. Connected by many ties with independent Kafaristan and Chitral, we still hope for a revision or abandonment of the Anglo-Russian arrangements, and for the eventual rescue of Badakshan and Wakhan, or at least the latter, from the worthless Afghans. Their amalgamation or confederacy with the adjoining independent Hill States, and the identification of their interests with our own, should constitute the entire group as a first line of defence against any foe attempting to advance through them, or by way of Kabul against India.

The reasons which guided the selection of the course of the Oxus as the boundary through Wakhan are entirely groundless. They were derived from the historical disputes for the possession of the Oxus Lowland, which pointed to the Oxus as the best boundary between Balkh and Bokhara. Hence it was determined to make the Oxus the boundary, not only in the lowlands, but also through the Alpine valleys and secluded communities of the highlands. It was all one to the learned pundit who had studied the conflicts of Persian, Afghan, Bokharian, and the rest, which had especially related to the possession of Balkh; and he entirely overlooked the altered nature of the case when he thought it an easy matter to carry his red line, which fitted so well along the river in the plains, also along the river in the mountains, about which history told him next to nothing, and geography only revealed herself obscurely to her most ardent admirers.

To the credit of the Russians, it must be said that they only submitted to our dictation in this matter. They made several attempts to preserve the independence of Badakshan, but were overruled; and we have reason to believe that they were quite ready to allow the red line to embrace the whole of the Upper Oxus basin, including besides Badakshan and Wakhan, the territories of Karateghin, Darwaz, Roshan, Shignan, and the Pamir. This would have been consistent with the common character of all these Hill States, which only need the pressure of similar circumstances to unite them like Switzerland; and be it remembered

that they have hitherto held their own against all the surrounding powers. We hope to see the policy recanted which aimed at forcing merciless and worthless Afghans up to Lake Victoria, and another adopted consistent with their true limits, and the just interests of ourselves and our actual neighbours.

Turning now to the frontier which stretches for 600 miles between the Kabul river and Sind, along the Commissionerships of Peshawur and Derajat, a still more disturbed and unsettled condition of the tribes beyond the British boundary line presents itself. First of all is the notorious Khaiber Pass, with the parallel passes of Tahtara and Abkhana, which cross a mountainous spur or offset extending from the Safed Koh at an altitude of about 5000 feet, and afford access between the British plain of Peshawur, and the Afghan valley of Jelalabad. Here are the Afridi, who are allowed to maintain an independent sway, and to obstruct at their pleasure not only the passages between Peshawur and Jelalabad, but also between the two British districts of Peshawur and Kohat; for their independent territory is permitted to be thrust forward between Peshawur and Kohat from the Kabul River almost to the Indus. Nominally, we choose to consider these highland robbers as subjects of the Amir of Kabul, but, except to play off that potentate against ourselves, his authority is as much defied by them as our own.

It would be wearisome if not pedantic to parade the long list of marauders that occupy the highland region west of the Derajat. The Suliman Range which skirts the right bank of the Indus, and is penetrated by at least fifty passes, is but the escarpment of the plateau which finds its backbone and culmination along the water-parting that divides the Indus basin from that of the Helmund, at a distance varying from 50 to 150 miles from that outer range. The whole of this considerable territory is, with scarcely an exception, utterly beyond the power or control of the Amir of Kabul. The peaceful Povindah traders, who carry on a very extensive trade between India and the interior of Asia, are obliged to be organised into bands of several thousand armed men, in order to fight their way through the murderous Wuzeris, who are permitted to pursue their lawless wills by the two sovereign States on either side of them.

With such results of thirty years of established power, it may now be a fit time to reconsider the strategical character of this part of the frontier line, and whether it is safer to remain at the foot of the hills, leaving every pass in treacherous and hostile hands, or whether we should make a determined effort to support the peaceable tribes, while we subdue the lawless and reduce them to order, and at the same time establish our frontier along the mountainous water-parting which divides the basins of the Indus and the Helmund. There, in all probability, would be found the actual limits of the Amir's administrative power, and also a strategical line facilitating the defence of India. The warlike people once subdued and brought under government, instead of being thorns in the sides of the settled populations, may be partly turned into a valuable soldiery, and aid in keeping the peace which they now break. This is a problem often solved before in India; and thirty years' experience on the North-West Frontier shows that it must be solved there, if we would not submit to be constantly harassed by highland robbers, and allow the power of the British Government to be degraded and despised—a result scarcely compatible with our tenure of India. This would be no injury to the Amir of Kabul, for by coming into actual contact with the area really subject to his authority, and contributing to his revenue, we should remove serious causes of dissatisfaction between the two powers, and be better able to act a friendly part towards him. Considering also the self-supporting nature of these highlands, there can be little doubt that they would come to be no burden to a strong and peace-preserving Government.

With such views, it is perhaps a misfortune that the Punjab authorities, under the orders of the Government of India, have been so careful to avoid any undue intrusion on the territory ascribed to Kabul, as to have refrained from acquiring ordinary geographical information concerning the Afghan highlands west of the Indus. Friendly invitations addressed to officers by native chiefs have been ordered to be declined obviously on this account, although their acceptance would have safely contributed much valuable information. Hence large tracts within this part of the Indus basin remain totally unknown, and would have to be explored like new discoveries. The basin of the Helmund beyond is much better known, thanks to the military surveys made during our former occupation of it. It is the country in some parts within 50, and in others within 150 miles of our own frontier, that has been so jealously sealed against the travelling propensities of our soldiers and civilians by the Indian Government. The Baluch territory is somewhat better known, thanks to recent intercourse. These are circumstances strangely at variance with the double dealing that a recent writer has attributed to the Punjab Frontier System, and go far to prove the fidelity which has been observed by the Government of India towards Kabul.

In advocating these views, let it be understood that we wish to respect the independence of the Afghan sovereignty within limits appropriate to its power, and consistent with the security of India. Our liberality and friendship have been strained to the utmost to support and extend his authority, without kindling the slightest reciprocity, or inducing him to keep the peace on our border, but eliciting, on the contrary, the most inimical conduct. It is now obvious that the remedy must be administered by our own hands; and if the Amir is not submissive, it may become a question whether the Shah would not be a better neighbour than the Amir.

If notions like these find favour with Her Majesty's Government, instead of reducing the control of the frontiers from three Commissioners to a single one, we should recommend the amalgamation of Sind with the Punjab, and the establishment of extra Political Agents in concert with the Lieutenant-Governor of the Punjab and three Commissioners of Sind, Derajat, and Peshawur, for service beyond their respective frontiers. The transfer of South Canara and Coorg, and perhaps Malabar, from Madras to Bombay may complete and facilitate such a rectification of Western India.

THE STILL UNEXPLORED PARTS OF SOUTH AMERICA.

A REVIEW of the extent of the region which is still unexplored in South America will help to dispel the delusion that discovery and exploration are nearly at an end, and that henceforth this, the most important and interesting part of the work of the Geographical Society, will have to give place to scientific deductions from the work of former explorers. This delusion seems greatest when we think of the vast unknown region round the North Pole, and of the interiors of Asia and Africa. But in South America, too, there is still exploring work which will suffice for more than one generation.

The work of geographical exploration is divided into three stages. There is first the report of the pioneer explorer who penetrates into a previously unknown region. There is next the more detailed work of the topographical surveyor in a country hitherto unmapped and imperfectly known. Lastly, there are the operations of the trigonometrical surveyor and the physicist. In South America there is still much work of the first kind, a still vaster area imperfectly explored, while the third and final stage of geographical exploration has not been reached in any part of the continent. So that, in this division of the globe, there is plenty of work for geographers for generations to come.

Commencing our review from the south, there is much that remains undiscovered in Patagonia and the extreme south of Chile, and still more that is, as yet, very imperfectly explored. The surveys of the Patagonian coasts and islands are even yet incomplete, though the work of FitzRoy and King has lately been supplemented by Captain Mayne, and by the Chilian officers. One of them, Captain Simpson, has done most valuable hydrographical work. The labours of Captain Simpson and his brother officers have been recorded by Captain Vidal Gormaz in those admirable annual Reports published at Santiago, and reviewed in our numbers for May 1873, p. 73; June 1876, p. 160; and April 1877, p. 94. As regards the interior of Patagonia, Captain Musters was the very first traveller who ever traversed that wild region from south to north, and this fact alone shows how much remains to be done there. I have just received a letter from Señor Moreno, of Buenos Ayres, who recently explored the River Santa Cruz in Patagonia, and had the gratification of reporting to his Government that the "Plains of Mystery," so named by Admiral FitzRoy, no longer corresponded to their name. But he still speaks of the greater part of Patagonia as practically unknown. Yet enough is known to enable him to say with confidence that the unexplored region conceals immense palæontological and ethnological treasures, entirely new material for zoological and botanical studies, and geograghical features of great interest. Señor Moreno himself has already done much to throw partial light on what is still unknown. Besides his Santa Cruz expedition, he has visited the lake of Nahuel-huapi, and has undertaken other excursions into Patagonia. He has also made important ethnological and geographical discoveries, including the collection of skulls closely resembling that of Neanderthal, and numerous fossils. I mention the labours of this distinguished Argentine geographer, first, to show how much is still unknown in this part of South America, and secondly, because the meeting should know that the interests of geography are not neglected by South Americans, and that, although there is much to be done, progress is being made by able and zealous explorers.

Proceeding northwards we next come to the "Gran Chacu," where there is a vast unexplored region within the basins of the Paraguay, Pilcomayo, and the Vermejo. Although Captain Cilley has done a great deal of good work in the upper Paraguay basin, the course of the Lateriquique is still entirely unknown. In the actual sierra of Bolivia, Captain Musters and his colleague Mr. Minchin, as well as Mr. Matthews, have for the first time constructed maps with any approach to accuracy, and have fixed numerous positions. They have thus rendered very important services to our science; and geography is no less indebted to Colonel Church for his valuable additions to our knowledge in the basin of the Madeira, and of its tributaries the Beni and Mamoré. Still there is a vast extent of interesting country which is practically unknown in the provinces of Lipez, Chichas, and Carangas, and especially round the western side of Lake Poopo. In many respects the Andæan System is, to the physical geographer, the most interesting mountain mass in the world, for here the phenomena of earthquakes may be studied on the largest and most awful scale, here are volcanic chains extending hundred of miles, and fossiliferous Silurian rocks raised in the form of mountain peaks 20,000 feet above the sea. Here, too, the meteorological and other physical phenomena connected with mountain chains are of peculiar interest. Yet the orography of western South America is very imperfectly understood, and this is particularly the case as regards the peaks and ridges of south-western Bolivia, where Tajama is shown (on Colonel Church's map) to attain a height of 22,350 feet. Mr. Minchin has fixed the height of Illiniani at 21,040 feet, and Illampu at 21,470. Do the peaks of the volcanic coast range, or those rising from the fossiliferous wall of the Eastern Andes attain the greatest height? This is one among many geographical questions of great importance, for the solution of which we must wait until men like Musters and Minchin have been over the whole ground.

In the vast region of the Madeira basin, which has been the scene of Colonel Church's invaluable labours, there is a yet more extensive unknown area, over which historical tradition has thrown a halo of romance. The scenery of the eastern slopes of the Andes is unsurpassed in magnificence and beauty in any other part of the world. The lovely valleys lead down towards an unknown region, into which thousands of the Ynca race fled from the conquering Spaniards, and where tradition placed the fabled riches of Exein and the Goan Paytite.

The most recent official Brazilian map of the Madeira and Purûs, communicated by Colonel Church, is exceedingly valuable; but it serves to show how incomplete is our knowledge of the Madeira River System, and how much remains to be done. I descended the valley of the Tambopata for some distance in 1860 and Señor Raimondi has since followed up my footsteps, but beyond my furthest point the country and the courses of the rivers are still unknown. The courses of the Caravayan rivers, descending from

slopes which are probably as rich in auriferous deposits as any equal area upon the surface of the globe, are also unknown. The physical features of this Caravayan region are expressly interesting, because the little that is known indicates the existence of a range analagous to the Sewaliks at the foot of the Himalayas, and of long lateral valleys like the dúns of India. Mr. Saunders has endeavoured to give expression to these features in his map of the empire of the Yncas.

But the most important portion of the unexplored region in this part of South America is undoubtedly the basin of the Madre de Dios, the river which drains the Montaña of Cuzco, the imperial city of the Yncas. Geographers long supposed that the Madre de Dios was a tributary of the Purus. This was the opinion of Father Bovo de Revello; and I received that impression from him when I explored the valley of the Tono as far as the Madre de Dios in 1853. I was then very young, and with no resources, without followers, without food, and without shoes. The good Father almost forced me to return to the Andes, but I did so with extreme regret. Lieutenant Gibbon afterwards reached and turned back nearly at the same point; and the Madre de Dios remains to be explored. The admirably executed discoveries of Mr. Chandless have since proved that the Madre de Dios is no part of the Purus System: and his scientific exploration of the Purus and Aquiry, which won for him the Gold Medal of this Society, is a model of geographical work of the highest order. Colonel Church has collected much information respecting the Madre de Dios and other important tributaries of the Beni. Still the work of discovery in this region remains to be achieved.

Professor Orton, of Wassar College (New York), justly attached so much importance to the exploration of the basin of the River Beni, that he made a special journey to Peru in 1875 for the purpose of undertaking it. His scientific attainments and excellent qualities as a traveller made it certain that geography would reap great benefit from his researches, and no doubt he had time to collect much valuable material. But the melancholy news of his death arrived by the last mail. He was taken ill in the territory of the Moxos, and, dying at Puno, was buried on an island in Lake Titicaca, almost on the threshold of his intended discoveries.

The head-waters of the Ucayali were as unknown as those of the Beni, until the energetic efforts of scientific officers in the employment of the Peruvian Government completed a preliminary exploration of them in quite recent years. The society has only just received a copy of the Report of Mr. Wertherman, who, accompanied by an English Naturalist named Whiteley, has been the first to discover the course of the important River Perene from the Andes to its junction with the Ucayali. This achievement is one of great geographical importance, and will doubtless lead to the more complete exploration of a region respecting which our knowledge is very scanty. The portion of the chain of the Eastern Andes, with its ramifications, where are the sources of the Perene and other affluents of the Ucayali, is very little known, and its treatment on most maps is confusing and erroneous. It must, however, be some time before full geographical light can be thrown upon this section of the Andæan System. It is not less desirable that we should have fuller descriptions of the coast-valleys and of the Cordilleras between Ayacucho and Arequipa, and accounts of the wholly undescribed country comprised in the Peruvian provinces of Lucanas, Pariaracohas, Cangallo, Aymaraes, and Cotabambas. We shall, no doubt, acquire much additional information from the forthcoming work of Don Antonio Raimondi. At present, however, a great part of Peru, including regions the physical geography of which is specially interesting, is unexplored and undescribed.

Further north, in the Andes of Caxamarca and Quito, we come to a region which has been treated of by the Ulloas and by Humboldt, and to the classic ground where Condamine was the first to measure the arc of a meridian. But even here there are extensive tracts to the eastward of the Cordilleras which need further exploration. When, a few years ago, Wertherman entered the country of the Jivaros, and passed the Pongo de Mauseriche on the Marañon, his journey involved geographical discovery; and the geographical work of Mr. Spruce, whom I employed to collect plants and seeds of the red-bark species of chinchona in the Ecuador forests, was both new and important. There is still much useful work of the same kind to be done in Northern Peru and Ecuador, especially in the basins of the Pastasa, Morona, Santiago, Tigre, and Napo.

Next to the Napo comes a great tributary of the Amazon, on its left bank, which, until quite recently, was entirely unknown. This river is the Putumayu, which rises in the eastern Cordillera near Pasto, forms the boundary between Ecuador and Colombia in its upper course, and falls into the Amazon within Brazilian territory. Its great importance as a fluvial highway is obvious, for, if navigable, it would carry the chinchona bark and other valuable products of the Pasto country, direct to the Atlantic.

The exploration of this great river by Mr. Alfred Simson, an enterprising young English traveller, is by far the most valuable contribution to our knowledge of Amazonian geography that has been made for a long time. Mr. Simson's very interesting narrative was printed in the last number of our *Proceedings*.* The idea of opening this route to the Andes was conceived by some enterprising Colombians who descended the river in a canoe; and Mr. Simson was then intrusted with a steam-launch to ascend the Putumayu from the Amazon, and ascertain its navigability. The direct distance from the source under the volcano of Pasto to the mouth in the Amazon is 620 miles, and by the windings of the river 1200 miles, the mouth being 1800 miles from the Atlantic, or 3000 miles from the source to the ocean. Mr. Simson describes the currents, the character of the curves and river-banks, and the general features of the stream, with intelligence and care; but unfortunately he was unable to take astronomical observations or to make a survey. This is one out of many examples of the great importance of supplying convenient means for young travellers to acquire these necessary qualifications before leaving England. The subject is a very important one in the interests of sound geography, and is one which might well engage the attention

* *Proceeding of the Royal Geographical Society*, vol. xxi., No. VI., p. 569. (September 19, 1877.)

of the Council of the Geographical Society. Mr. Simson, in the absence of such observations, was a first pioneer discoverer. The course of the Putumayu still awaits exploration by a traveller such as Chandless or Spruce.

Next below the Putumayu, and still on the left bank of the Amazon, comes the great river of Caqueta or Japurá, which rises on the eastern slopes of the Cordilleras of Popayan, and has a still longer course than the Putumayu. Martius ascended it to the falls, and it is frequented by traders. Mr. Bates, however, who is intimately acquainted with the part of the Amazon where the Japurá empties its waters into the main stream, and was long resident at Egas, will be able to tell us to what extent the basin of the Japurá has been properly explored.

On the right bank of the Amazon, between the Yavari and the Purus, around the head-waters of the Jutáy, Juruá, Teffé, and Coari, there is a vast undiscovered region. Mr. Chandless ascended the Juruá for 800 miles; but the Teffé and Coari have never been explored.

Part of Colombia also presents a wide field for discovery. There is an enormous tract, bounded on the west by the slopes of the Cordillera, on the east by the Orinoco and Rio Negro, on the north by the River Meta, and on the south by the Uaupes and Japurá, which is practically unknown. This region is also surrounded with a halo of romance, for here the old conquerors of the sixteenth century believed that the far-famed El Dorado dwelt in golden abundance. In 1536 George of Spires set out from Coro, in Venezuela, with 400 men, to solve the mystery which enveloped this unknown region. The resolute warriors penetrated into a country which has scarcely ever been visited since, and even reached the banks of the Japurá. A glance at the map will show the immense extent of country which was traversed by George of Spires in this daring and romantic expedition, which occupied him three years. His lieutenant, Fedreman, marched in a more westerly direction, crossed the Meta, ascended the most difficult part of the Cordillera of Sumapaz, and in April 1539 met the famous conqueror Quesada on the Plains of Bogota. Soon afterwards, in 1541, Philip von Huten, a German follower of George of Spires, led another great expedition from Coro in search of El Dorado. This dauntless commander entered the country which Mr. Wallace, in 1853, called "the unknown regions between the Rio Guaviare on the one side, and the Japurá on the other."

Modern travellers will have to emulate the daring of these searchers for El Dorado, in the re-discovery of the now unknown region. But its exploration is undoubtedly a matter of great geographical interest. Moreover, there are many parts of the Colombian Andes which need further examination. I may mention that I have despatched that admirable collector, Mr. Robert Cross, no less than three times to obtain valuable species of chinchona plants in the forests of Popayan and the Upper Magdelena, and on every occasion his work has involved more or less of geographical discovery. Last October he reached the head waters of the Japurá.

In these brief notes I have mainly confined myself to the western half of South America. But there is much exploring work to be done also on the Brazilian side, and in Guiana.

Mr. Spruce ascended the Trombetas, but otherwise the whole region from the Rio Branco to the Atlantic is entirely unknown (a distance of 600 miles), including a dividing range, plains, and forests.

I believe, however, that enough has been said to show that there still remains a vast amount of exploration, and even of discovery, to be achieved in South America; that it is work which is well worthy of the attention of the Geographical Society; and that, so far as that continent is concerned, geographers will have no need to sigh because there are no more worlds to conquer, for generations yet to come.

CLEMENTS R. MARKHAM.

THE ANCIENT SILK-TRADERS' ROUTE ACROSS CENTRAL ASIA.

THE paper on the above subject read by Baron Richthofen before the Berlin Geographical Society, on the 5th of May last, was based, in a great measure, on the general views enumerated in the author's recently-published work on China, the more detailed information being derived from Ptolemy and Chinese sources. It opened with a general sketch of Central Asian geography, in which the parts played by the Himalayan, Kuen-Lun, Tien-shan, and Altai Systems were clearly expounded. The Tarim basin the author likened to a gigantic horse-shoe-shaped plain, the sides of which are formed by the Tien-shan and the Kuen-Lun. This horse-shoe was the western part of a former extensive sea, which was bounded on the north by the Altai Range. Its eastern limit cannot at present be defined with accuracy, but it nowhere trenched on the confines of modern China. One noteworthy feature of this great inland sea, which is even now testified to by the name *Han-hai*, or "dried-up sea," applied by the Chinese to its former site, was the depression or arm between the Tien-shan or Altai Ranges, by which it communicated with another extensive sea, beginning about Lake Balkash. In the recesses formed by the spurs of the Tien-shan and of the North Persian Ranges, civilised nations formerly existed, and extended to the banks of the Jaxartes and Oxus, and their tributaries. With the exception of the less important oases in the Tarim basin, they were the first civilised countries to be found west of China, from which they were separated by thirty degrees of longitude, the only practicable line of communication lying across steppes and deserts.

The migrations of nations and the movements of traders are very unlike, though both follow distinct laws. The former have always chosen localities which have afforded them broad, easy, and natural routes into warm and fertile plains. Mountains were only crossed where a low pass gave easy access to the wished-for goal. These successive waves of migration came from the north-east; but when they ventured into the basin of the Tarim, they were caught in a *cul-de-sac*, whence they could only escape by the way they came. In pre-historic times migrations towards China may have found their way into the region referred to. But as soon as its people were capable of looking after their own interests, the only available

exit lay through the Dzungarian trough between the Tien-shan and Altai Ranges, mentioned above. From thence they invaded Europe, Persia, and India. Mountain passes naturally did not present such insuperable difficulties to passing armies, and on several occasions large hosts have made their way from China to Turan over the passes near the sources of the Oxus and Jaxartes, and from Turan to the western oases in the Tarim basin.

The movements of traders follow entirely different laws. They invariably sought the shortest routes between the two countries whose goods they wished to exchange one for the other. Among these goods, silk has played an important part since the earliest ages. The duration of this silk trade is most conveniently divided into two periods—the first from remote and uncertain ages to about 114 B.C., being the period of indirect traffic; and the second from 114 B.C. to 120 A.D., being the period of direct commerce between China and the Turanian plains. In the book *Yue-kung*, which treats of the history of China during the last 4000 years, silk is mentioned as an article of tribute in some of the provinces, and we learn therefrom that the great Yue aimed at introducing the growth of the mulberry and silk culture in the lands about the mouth of the Yellow River. A thousand years later the *Chuli Book*, which contains the official precepts of the Chu dynasty, makes frequent mention of silk, and it is probable that the precious jade of Khotan was largely exchanged for it, though, probably, not by a direct traffic between the two countries.

It is uncertain how far back silk stuffs were first exported to India and Western Asia. The Chinese name for silk was *Sz'*, and it is curious to observe that both this name and the product itself made their way into Corea, Japan, Mongolia, and (especially) Central Asia, and in later times into Greece and the other European countries. After a time the letter *r* got affixed, and the root-word was thus changed into *ssir* or *sser*. The word Sherikoth in Isaiah probably refers to the same, and the Arabs to this day call a piece of silk goods *saraqat*. It is probable that Herodotus, in speaking of the fineness of the Median dresses, alludes to silken stuffs. The first undoubted mention of the manufacture is to be found in Nearchus (320 B.C.), who speaks of the Seric stuffs of India, of the people called Seres, and of their country, Sera. There is no evidence to show by what route these silks reached India, Persia, and Media. It is supposed that the princes of the house of Tsin, who since the eighth century before Christ occupied a small principality in the western part of Shensi, extended their dominion into Central Asia, and that by this means the Chinese carried on direct trade with the lands about the Oxus. This supposition rests on three points: the mention of a country called Sinim by Isaiah, the frequent mention of the name Mâtchin (which was supposed to refer to China) by Firdusi in speaking of early Persian history, and the frequent allusion in the Mahabhârata to the *Tchina* people in the north-west of India. Against this, however, must be remarked that the Tsin princes certainly never penetrated into Central Asia, nor, as far as can be shown, beyond the Yellow River; that the name Mâtchin was used to designate any powerful princes of Turan, with whom the Persian kings had intercourse; while the researches of recent travellers have disclosed the existence of a people called Tchina in the North-western Himalayas. There is no proof that the Chinese ever journeyed beyond their western borders before the second century of our era, or even that they knew of the existence of other nations beyond their immediate neighbours in Central Asia. The producers and consumers of the silk were thus equally ignorant of its destination and origin. There is good reason for supposing that the inhabitants of Khotan, who were known to the Greeks under the name of Issedones, were the chief medium of transmission of the silk trade across the passes into India and over the Pamir.

The second period of the silk trade, embracing the period of direct traffic between China and Turan, begun with the year 114 B.C., in which the first caravan set out westward, and ended about 120 A.D., when the power of the Han dynasty was on the wane. The direct traffic only flourished when all Central Asia was subject to one sovereign will. It was never more prosperous than when the Mongols exercised supremacy over the lands between China and Europe, but before that time it had revived in the seventh and eighth centuries, when the Tang dynasty extended their rule to the Caspian Sea. One of the chief circumstances which helped to develop it was the building of the Great Wall, which the great Tsin-shi-wang-ti erected to protect his kingdom from the attacks of the Hiungnu, who had for centuries molested the vassal princes and chiefs on the northern borders of the empire. During the Han dynasty (205 B.C.) the successive waves of invading hordes from the steppes broke themselves against the wall, and gradually falling out among themselves, dispersed and retired through the Dzungarian valley or depression into the Aralo-Caspian basin. At the beginning of the second century, the Usun people, who lived in the Alashan mountains and near the Etsina River, engaged in conflict with the Yuëtchi people, who lived about Kan-chow-fu, and were vanquished by the latter who migrated through Dzungaria to Ili, where they came upon the *Sz'* people. Twenty-two years later, the Usun revenged themselves by driving the Yuëtchi out and settling themselves in Ili and the Tien-shan, while the Yuëtchi and the Sz' migrated towards the Jaxartes.

These wanderings now began to have their effect on the silk trade. In 140 B.C. Hsia-wu-ti, the greatest King of the Han dynasty, wishing to break the power of the Hiungnu, sent his General, Tchang-kien, into Central Asia to conclude a treaty of alliance with the Yuëtchi. This is the first Chinese expedition to the West of which we hear, and the report, which after thirteen years adventurous wanderings, the General furnished, on his return home, has the appearance of a description of previously unknown wonders. Although the expedition failed in its immediate object, it returned with the novel intelligence that in the far west of Turan there dwelt great and civilised nations, who owned grand cities and engaged in commerce, who esteemed very highly the Chinese silk, and wished further to do direct trade with China, of whose greatness they had often heard. The Emperor recognised the importance of acting on this wish, and endeavoured by every means in his power to further its fulfilment. The ways by which this was attempted to

be carried out are interesting. Tchang-kien reported that westward the Hiungnu formed an insuperable bar to commerce, as they commanded the entrance to the Tarim basin. But he suggested an alternative. Among the Tahia, a people dwelling in towns south of the Upper Oxus, he was surprised to see a certain sort of reed or grass, and a stuff, which in his opinion must have come from his native home, Shu (the plain of modern Ching-tu-fu). He was informed that they came from a land called Yin-tu, which lay some thousand *li* south-east of Tahia, and where the people lived in hot plains and rode on elephants. Through this land of Yin-tu (*i.e.* India) Tchang-kien thought it would be easy for people from Shu to reach Tahia. This suggestion was followed up with energy, and a number of expeditions were sent, but unfortunately failed through the hostility of the mountain tribes, and led to no other result than the discovery by some merchants of Burma and of the great rivers of South-eastern Asia.

In the meantime, affairs in the North took a more favourable turn. A young leader, called Ho-kiu-ping, placed himself at the head of a Chinese army, and for the first time in Chinese history advanced into the Steppe, and easily vanquished the Hiungnu, opening the road into the Tarim basin.

This was an event of great importance for the future history of China. The road referred to was called the Yue-monn passage, or the way of the *Yue* gate; *yue* being the name applied to the jade of Khotan, and the Yue-gate being a rocky defile through which the precious mineral was conveyed along the only natural way between the Tarim and China—a sort of depressed road between high mountains on the one side and a steppe plateau on the other. This approach proved to be the key of Central Asia and of great future moment, both in political and commercial exigencies.

The inhabitants of the oases on the south of the Tarim, freed from the presence of the Hiungnu, received the Chinese with open arms, and in the year 114 B.C. the first caravan started for the West. Judging from the fact that it reached the land of Tahia and Ansi, it must have crossed the Pamir. But the city of Tawan formed the chief mart; it lay on the Jaxartes and the way to it was over the Terek Pass. From five to ten large caravans visited the town yearly, and the first sudden effect of this was to depreciate the value of the silk. On the approach however of a Chinese army in 104 B.C. matters improved, and the market for the silk extended further and further westward, until the Roman empire was reached.

For 120 years the way remained open, but at the expiration of that time the Hiungnu again gained possession of the trade route, and the Tarim basin was lost to the Chinese for fifty-six years. General Pan-chow then not only regained the whole of the lost country, but also (95 A.D.) led a victorious Chinese army across the Pamir Steppe to the Caspian Sea, where, for a brief time, the Chinese and Roman empires were brought into close proximity without, however, any permanent result. In 120 A.D. the Chinese again lost their control of Turanian lands, and in 150 A.D. all direct communication with the west of the Tarim basin ceased.

As regards the geography of this subject, one of the most important points is to fix the site of Tawan. Baron Richthofen considers that Remusat's opinion that Tawan was the capital of the modern Khokan or Ferghana is erroneous. Tawan, he points out, was not the first kingdom reached after crossing the Tsung-ling Pass (Terek-dawan), but Hiusiun, whose king lived in Usi (Osh?) 500 *li* from the mountain pass. It was 920 *li* from Usi to Tawan, which would bring us to the great bend of the Jaxartes, near Oratepe, which was called Sutrushna by the Arabs, a name which we easily recognize in Su-tui-sha-na, which it appears from Chinese sources was the subsequent name of Tawan. The people of Tawan were a commerce-loving people, but brought the silk only to the nearest markets, whilst the Ansi, who possessed many towns, vessels, and waggons, who were addicted to agriculture and had stored up riches, conveyed it to the northern slope of the Iranian Plateau and the shores of the Caspian. As regards the nationalty of these traders, it would appear from Tchang-kien's description that they were Tajiks. They spoke different tongues, but also had one common *lingua franca* for trading purposes, and there is ground for concluding that the trading inhabitants of the Tawan, Tahia, and Ansi kingdoms, were the Persian-speaking predecessors of the Tajiks.

In the Han annals, the Chinese complain that they were prevented by the Ansi from entering into direct commercial relation with the *Ta-tsin* or Romans. The silk reached India through the medium of the Tahia, who inhabited the oases of Balkh and Kunduz and other districts south of the Oxus. In the last century before Christ the Roman authors begin to speak of Seric stuffs, of the land Serica, and its people, of which they heard only indirectly and from vague report. There is no proof that the Romans ever held direct intercourse with the Chinese.

With regard to the routes of the silk traders, we gather most information from Chinese sources, and first among these we must place the annals of the Han dynasty. At present we know of one route in the valley of the Tarim which follows the western and northern edge of the horse-shoe above referred to. Mediæval travellers, Buddhist pilgrims from China, Marco Polo, and Shah Rukh's ambassadors testify to the existence in their time of kingdoms and towns along the southern edge of the basin between Khotan and Lob-Nor, and these were united by diverse routes; but in the middle ages these latter were fast disappearing, and there were traditions of buried treasures, sand-covered towns, and even kingdoms which had disappeared beneath the encroaching sand desert. In the time of the Han dynasty things had not got so far, and these districts were in a better condition. There were then two kingdoms, called Liulan and Kuchi, on Lake Lob, and Yutien (Khotan), which are generally mentioned. There were roads between Lob-Nor and Khotan, called the "southern roads," one along the Tarim, and one along the southern foot of the Tien-shan (the northern one). But the latter, west of Kucha, was occupied in ancient times by hostile tribes, and the southern road was more frequently used. The official road extended from Liulan, on Lake Lob, for 720 *li* to Tsie-mo, where roads to the north and south diverged. Hsiau-wan and Yung-lin appear to have been situated on southern tributaries of the Tarim which are now filled up with sand. The

road then led to Yutien (Khotan), Sokiu (Yarkand), and Suléi (Kashgar). The roads over the Pamir and Terek Passes were certainly much used; but, unfortunately, a detailed description of them is wanting.

Turning to western writers, we come first upon Ptolemy, who wrote about 150 A.D., and who derived much of his information from Marinus (contemporaneous with Pan-chow, who conquered the Tarim basin, and led his army as far as the Caspian). The weight of evidence goes to prove that Ptolemy's Serica denoted not merely China, but also the basin of the Tarim, or the greater portion of it, and the old silk-traders' route lay at the southern foot of the Tien-shan. The difficulty of identifying the places mentioned by him arises partly from the erroneous idea that the present route was the only one then in use, partly from the omission to consult the Chinese authorities, and partly from a failure to take ancient names in preference to modern ones for purposes of comparison.

In expounding the geography of Serica, Ptolemy found himself in the position in which many geographers stood at the beginning of this century as regards their knowledge of diverse continents, *i.e.* they possessed a knowledge of the countries which in some particulars was precise, but had to lay down the courses of rivers and the direction of mountain ranges, the positions of cities and districts, out of itineraries and vague information. By this means rivers, which later information showed to be separate, got thrown into one, mountains were incorrectly laid down, and maps were generally erroneously constructed. Ptolemy's knowledge was of an analogous character. On the Indian side the districts at the foot of the Himalayas were known among the Greeks by the name of Emodus. Of the mountainous land between the Indus and Oxus little was known beyond the road between Balkh and Peshawur. The region of the Upper Oxus and Jaxartes was somewhat better known, and its supposed meridional range and water-parting was called Imaus, and supposed to be a spur of the Emodus. Silk was brought across both the Imaus and the Emodus: across the former to Sogdiana and Baktriana, and across the latter to India. Beyond was Serica; but as this was partly identified with the political limits of China, which was known not to reach as far as the Imaus, the region immediately beyond was called *Scythia extra Imaum*. Ptolemy acquired his information respecting Serica both from India, in regard to the regions across the Emodus, and from Sogdiana and Baktriana, with reference to the regions east of the Imaus; but, as Colonel Yule has remarked, he was unable to focus the two stereoscopic pictures into one. Marinus, on whom Ptolemy mainly relied, was exposed to the danger of misspelling names, as he acquired his information second-hand; and of the agents of Maës Titianus, the Macedonian merchant, who went to China for silk, we do not know of what nationality they were, but it is probable that they were Persians, or Persian-speaking Tajiks. Bearing this in mind, as well as the fact that in Marinus's time western travellers entered on Chinese ground not far distant from Kashgar or Yarkand, and that the names of places must be identified with names of some antiquity, and not with modern ones, we shall be in a position to form a tolerably correct notion of the silk route of Marinus and Ptolemy. Its point of departure was Baktra (Balkh), and its terminus Tshang-ngan (Hsi-ngan-fu), whether the traders managed to reach this latter place or not. It is probable that the embassies sent by the princes between Persia and the Altai to the Court of China during the two preceding centuries did not go beyond it, and that it was not even visited by the foreign merchants. The latter appear to have converged from different directions on Sha-chow, and the stations Yang-kwan and Yu-monn-kwan were points of departure for the same.

The position of the kingdom of the Issedonese is of importance in determining the route of the silk traders. Greek writers had spoken of this people as a great nation. And in the whole basin of the Tarim, there was only one kingdom corresponding entirely to the description given by them, and that was the Yue-tien of the Chinese, the capital of which was Khotan. Ptolemy represents the country of the Issedones as lying north of a mountain range which he calls the Kasian Mountains. The similarity of the name has led Deguignes, D'Anville, Lassen, Ritter, Humboldt, and other commentators on Ptolemy to identify the same with the modern Kashgar. But the name of Kashgar was not then in existence, the town being called Suléi for several centuries after. A glance at the map, however, will show a striking analogy between the Kasian Range and the western Kuen-Lun, and a further link is found in the name of the chief product of the country, *i.e.*, jade, which among the Chinese was called *yue*, but among the Persian and Turkish nations appears to have been generally called *kash*. The range seems thus, by a practice common elsewhere, to have been named after its most important mineral product. The identification is clinched by the fact that Issedon Serica is described by Ptolemy as the most important place along the trade-route, and the Chinese accounts give Yue-tien as the chief place.

A second phase of importance on the line of route was Daxata, which Hager has shown to be a Grecised form of the Persian *Desht*,—sand—a term which is to be found in the name of the town, Sha-chow, referred to above, which really means "Sand-town." Turning to that portion of the route between Issedon Serica (Khotan) and Daxata (Sha-chow) we come upon two localities, *Thogara* and *Drosache*. The latter, Baron Richthofen has been unable to identify, but the former name has, he points out, similarity to the Tukhâra of the Indians, or Tu-hŏ-lo of the Chinese, a people who during the seventh century of the Christian era were found by Hwen-Tsang to have once dwelt a few days' journey east of Khotan, and whose name still prevailed there at his time, although the people themselves (who are probably identical with the Yue-tchi above-mentioned, or, at all events, the greater part of them) had, in the second century A.D., lived in the vicinity of Kanchow-fu, and at the time of the Buddhist pilgrim's journey settled partly on the Upper Oxus and partly on the Upper Indus. It is not unlikely that the encroachment of the sandy desert had caused a portion of the people to migrate from their ancient oasis in the valley of the Tarim, but that enough of them remained to give their name to the old site. The identity of the site with Ptolemy's Thogaroi is confirmed by the name Aspacares, which is very

like the Persian name for nation of riders, and which referred to the great Tibetan nomad race called No-kiang which, we learn from Chinese sources, dwelt south of the oasis. Asmiræa, too, is described by Ptolemy as lying south of the river Oikhardes, which must be the Tarim. The important town of Tsiëmo where the northern and southern roads diverged, is the only name which has any similarity to Asmiræa.

Eastward of Daxata, or Sha-chow, the old silk route rested only on vague hearsay evidence. The traders reported that a river and a mountain had to be crossed before reaching Sera metropolis. The river is given as a branch of the *Bautisos*, which must be the Hwang-ho. But Bautisos is the name of the stream flowing north of the Emodus through the land of the Bautæ (*i.e.* Bhot, or Tibet in its restricted sense), or, in other words, the Yarudzangbo, or Upper Brahmaputra. It is evident that Ptolemy's information derived from India here occasioned him some confusion, and that he has assumed that the Hwang-ho, which flowed out of a little-known mountainous country, and the Brahmaputra, which, according to the Tibetans, flowed eastward into an unknown region, were one and the same. Similar instances of erroneous geographical conclusions may be found in Livingstone's supposition that the Lualaba and Nile formed one river, and the theory, not long since held, that the Sanpu and the Irraawady were one and the same.

The western limit of Serice would appear to have been near Kashgar and Yarkand, where Marinus's information leads him to place them. Kashgar (Suléi) was a small kingdom, while Yarkand (Sokiu) was more important, and was often united with Yue-tien, or the Issedon kingdom. In 87 A.D. the Chinese and Yue-tien made common cause against Sokiu and overthrew it, and from that time the western limit of Serice appears to have been where the agents of Maës Titianus placed it. Before 87, a portion of the Issedon kingdom belonged to Scythia, *i.e.*, to the non-Seric country, and Issedon Scythia was therefore a natural form of expression. The western boundary then lay between Yarkand and Khotan, and this corresponds with Ptolemy's map. Another possible explanation is, that as the Greeks designated all nomads by the name of Scythians, and as they heard of the existence of many of these nomad tribes eastward of the Imaus, Ptolemy was induced to lay down a sharp eastern boundary to *Scythia extra Imaum*, and that the same boundary formed the western boundary of Serica, which was thus shifted too far eastward.

In endeavouring to fix the direction of the route of the agents of Maës Titianus between Baktra and the Tarim basin, we meet with many difficulties. In settling this question the position of Issedon Scythica becomes of great importance. On Ptolemy's map it lies east of Imaus, west of the sources of the Œchardus, south of the Auxacian mountains, which were probably the mountains on the west of the Tarim depression, where they approach Aksu, and north-west of Issedon Serica. This description would correspond to Kashgar and Yarkand, and the pass leading to it would be either the southernmost Pamir Pass from Badakshan or the Terek Pass to the north. The latter answers best to the description. From Baktra there ran an important route, *i.e.*, that past Samarkand throughout the length of Ferghana, and it appears, from Chinese authorities, that this was once a great commercial line of route.* In the Takht-i-Suleiman, near Osh, some professed to recognize Ptolemy's "stone fort," which was west of the Imaus; but inasmuh as important places such as Samarkand are not mentioned, Colonel Yule suggested, in 1866, that some intermediate line was the one sought for. Later research has proved that there are various routes through Karateghin, and the Alai country, which might have been utilized for trade purposes. It is possible therefore, that at the time when Baktra was the centre of a flourishing commerce, a direct way to the Tarim basin was preferred to the circuitous route by Samarkand, along which also heavy dues were exacted. The land of the Comedæ is probably the Kiumito of Hwen-tsang, and the land of Komèdh in Ibn Dasta, which probably lay north-east of the great bend of the Oxus. The stone tower would thus have been situated at the upper end of Karateghin, where the valley rises up to the steppe country of the Alai. This, however, does not coincide with the theory that Osh was the site of the stone fort.

There is much room for conjecture in the question as to the route from the Stone Fort to Issedon Scythica. Ptolemy gives a caravanserai on the line of the Imaus, *i.e.* near the water-parting. This would naturally be situated at the point of junction of two important trade routes, and was very probably at the point where the way from Karateghin joined that from Ferghana and the Terek Pass. At the present time Balkh has lost its importance, so that the Karateghin route has fallen into disuse; but in the fifteenth century, Shah Rukh's embassy, on its return, separated into two parties in the "defile of Andijan," one going towards Balkh, and the other towards Andijan and Samarkand.

The summary of his researches is thus given by Baron Richthofen. From 114 B.C. to 120 A.D. (with a break of fifty-six years between), the silk was brought along routes from Sha-chow and Lob-Nor which traversed the southern part of the Tarim basin, and preferably used the Terek Pass for those caravans resorting to the great mart of Tawan, or Ora-tepe. From thence the silk went to Samarkand, and thence partly through the lands of the Upper Oxus to India, and partly through the lands of the Parthians to Further Asia and the Roman market. The only journey of western traders of which we possess detailed information did not, however, follow the Samarkand route, but diverged, probably, at Merv, and passed through Balkh, probably through Karateghin and the Alai, entered the Tarim basin at Kashgar, proceeded to Khotan, and followed the southern border of the basin of the Tarim, till they reached Sha-chow. From thence to the chief mart of China the account is too vague to follow. When the Chinese lost their hold on the Tarim basin in 150 A.D., they could no longer protect their caravans, and the trade fell into the hands of the Persians, and Kan-chow-fu became the frontier mart of China. The introduction of the silk into Europe dates from the sixth century, when Dizabul, the Prince of the Tukin, sent an embassy to Constantinople to secure a market for the silk. From the following century the overland route of the silk traders lost all its former importance.

* This coincides with the opinion expressed by Sir Douglas Forsyth. See our number for February last, p. 51. (ED. *G. M.*)

AFFAIRS IN JAPAN.

THE rebellion in Japan, we may now assume, after repeated false announcements to that effect, has been completely quelled. It has ended in the indiscriminate massacre of the few who remained steadfast of the rebel army, with their two leaders Saigo and Kirino.

The Government has once more established its authority over the whole country, though at a cost to itself of 12,000 men, and between 7 and 8 millions sterling, and its duty, now, is to examine its position as regards the country.

The fire, which burst forth nine months ago in Satsuma, and which has just been quenched, is smouldering in many other districts. Discontent is common, and, what is almost the only means of redress open to a Japanese, namely, assassination, is attempted and threatened in various quarters. The failure of their fellows in Satsuma will not deter the high-spirited and reckless Samurai, or even the more peaceable agricultural classes, from making further efforts to relieve themselves from what they believe to be serious wrongs. It is not probable, owing to the vigilance and summary measures of Government, that the result of these efforts, will, for the present, attain larger proportions than desultory and local risings, but these may be found sufficiently harassing, and the country's welfare demands the removal of all occasion for them. That *all* cause for discontent cannot be removed without a change of Government, probably, those best acquainted with Japanese affairs will be disposed to agree. But there are no means by which this can be effected, except by successful rebellion. That method has already been tried, and has failed, and it is therefore probable that the present Government, with some possible modifications, will remain in power. The people can, now, only rely on the undoubted intelligence of most of its members for a more acceptable conduct of the affairs of the country.

The rebellion, just ended, headed by the soldier and politician, Saigo Kichunoske, has not been wanting in incidents, illustrative of his extreme daring and skill. That a man, such as he, of the greatest honesty of purpose, of undoubted patriotism, fully acquainted with the political affairs of the country, and bearing, probably, the most honourable name in it, should head a movement, having for its object the overthrow of the Government, is evidence that some justification exists for the disaffection which prevailed.

Suggestions have been made that the sole object of the movement was the maintenance of the ancient supremacy of Satsuma. But the character of Saigo, his former efforts on behalf of the Mikado, and the high qualities of his statesmanship, render it extremely unlikely that he would lend his assistance to an idea so opposed to the scheme of government adopted by Japan, or to an effort so palpably abortive. His stake in the movement was a vital one. He knew well that, in the event of failure, no mercy would be shown him by those against whom he took up arms; his doom would be certain death. Can it be supposed, therefore, that he would have accepted this risk for a *chimera*—for an idea begot in the feudal times, which, except to a few fanatics, had long since been obliterated? There can be no question that an overpowering sense of wrong impelled him to action, and we, in a former article, gave, from the best information then obtainable, some idea of the nature of this. From the news since received, our impressions have, to some extent, received confirmation.

Saigo, according to a native paper, the *Akebono Shimbun*, intent upon representing to the Government the evils which he imagined it brought upon the country, had determined to proceed to the capital, and do so in a conciliatory and temperate spirit, when the confessions of the men who were said to be sent by Government officials from Yedo for the purpose of accomplishing his assassination, were laid before him. The passions aroused by this attempt, coupled with the hot-headedness of the young Samurai by whom he was surrounded, who, in fact, took offensive measures before he sanctioned them, led him to a change of procedure, and to the acceptance of the leadership of an eager band, numbering 15 or 20 thousand.

It is difficult, at this moment, to speculate upon the probable results of the rebellion, or the changes it is likely to produce; and it is impossible to extract from the native papers, owing to the strictness of the surveillance under which they are placed, any impartial, or even fair, opinion One of these, the *Hochi Shimbun*, in an article of more than ordinary merit, describes the policy of Saigo as being prompted by a desire to re-establish the feudal system. It charges him with separating himself from the principle of a central government, and with having, for years, nourished and collected what was left of the feudal sentiment in the country near his own person. And it concludes, with unquestionable correctness, that his present failure will be the means of completely clearing the country of all further attempts to revive it. The article ends thus:—"All the subtle powers of the feudal system were here assembled, and broke out in one corner in the south-west, so that Saigo's last battle was not only his own last struggle, but was the last struggle of that subtle force which animated the feudal system. The poisonous influences of this institution have now been extinguished, and if this empire is again disturbed by war, it will arise from some other cause."

Doubtless, the feudal system has been finally obliterated; but that its revival was ever present in the mind of Saigo, his former well-known career and high intelligence gives a distinct refutation to. The assertion is the means by which the Government, through its coerced organs, attempts to conceal its own delinquencies, and to throw the stigma of fanaticism on a well-meaning and carefully-balanced mind.

It has been evident that for years the feeling against so despotic a form of government, and against the arbitrary edicts emanating from a few of its higher, but little respected officials, to which absolute submission is demanded, and against which there is no appeal, has been gradually gaining strength among all classes. The native press, subjected as it is to the sternest censorship, gives frequent utterance, though in covert and indirect terms, to the palpable desire of the country for more freedom and a greater liberality of treatment. And there can be no doubt that to this, coupled with the action of the Government, effecting, as he considered, the wholesale robbery of his class; the attempt, to which he believed Government officials were a party, to accomplish his assassination; and his suspicions of the gross venality of

the Mikado's advisers, must be attributed the action of Saigo and his followers.

What his real motives were, or if he had been successful, what form of Government he purposed establishing, will probably never be accurately known. Suffice it, his motives were honest and his ideas of government founded upon a highly cultivated intelligence.

Kagoshima, the capital of the province of Satsuma, and a large and important town, was the point from which the first operations of the rebellion were commenced in January last. It was not considered advisable to occupy this town, and the rebel army, after possessing itself of the stores of ammunition which are always kept there, proceeded northwards, gaining considerable additions to its numbers as it went. Kumamoto, a large fortified town on the west coast of the province of Higo, was taken and held for some time, but after severe fighting, in which there was great loss of life on both sides, the rebel troops were forced to evacuate it. They then proceeded southwards, and held for a time Hitoyoshi and other large towns. Suffering continued defeat, they retired westwards through a thinly populated and exceedingly mountainous region. The warfare here was of a very uncertain nature. Small bodies of the opposing troops occasionally met, and in such encounters it is said the Imperialists generally were successful. There were evidences of a failure of supplies in the rebel army, stones being used as bullets, and food being unprocurable in the hilly districts. It gradually retreated before the advancing Imperialists, being much harassed by them, and as it neared the eastern shore of the island it became partially demoralised and wholesale desertions from it took place. Saigo, with his force thus weakened, nevertheless boldly emerged from the hilly region, and, with the remainder of his army, took possession of Nobeoka, a large town on the east coast of Kiushiu.

It might appear that, to leave the protection of a broken mountainous country, and to lay his reduced and ill-provided army open to direct attack, was foolhardy and ill-advised, had not some other reason existed for such a step. Nobeoka lies at the head of a small bay, which forms an excellent harbour for native craft, and is conveniently situated for carrying on communication with the Island of Shikoku. An excited agitation against the Government had sprung up in the province of Tosa, which forms a great part of Shikoku. A long and elaborate memorial detailing the grievances of the Tosa Samurai had been presented to the Mikado, the authors of which were, instead of any redress being offered, apprehended and imprisoned.

This causing increased excitement, it is believed that *pour parlers* passed between Saigo and the leading men in Tosa, and offers of assistance to him were freely made. He, probably, therefore, in the expectation of the arrival of reinforcements from Shikoku, occupied Nobeoka to facilitate their landing. But, no assistance from Tosa arrived, probably on account of the care with which the channel between the two islands was watched by the Government cruisers, many of which were known to be in the vicinity.

Saigo, after a struggle with the Imperialists, was obliged, on the 14th of August last, to retreat from Nobeoka, again towards the mountains, which he had formerly left. Feeling his position to be desperate, he is said to have addressed his followers, urging them to further valour, and announcing his determination to fight to the last. He, however, advised all those who where not prepared for this to leave him. Thereupon, many gave themselves up to the Government forces, only six hundred remaining steadfast. Having been surrounded by the Imperialists, he, with this small band, succeeded in cutting his way through them, and effecting a retreat among the hills. By one mail, intelligence arrived that he was pursued, his men captured, and that he himself and his chief followers had killed themselves in the method usual in Japan. But by the following mail, we learned that, instead of this, he had made a forced march of about 150 miles, and, with his 600 men, had suddenly appeared before Kagoshima, capturing the Government Stores of arms and ammunition, and sending off the Government officials in precipitate flight. Having established himself, as securely as circumstances admitted, in his own town, which he had left eight months before, he immediately proceeded to the enlistment of fresh recruits for his army, when his operations were disturbed by the arrival of Government troops. He at once retired to a strongly fortified eminence, named Shiroyama, in the neighbourhood of the town, and was there surrounded by a body of fifteen thousand Imperialists. An attack was made on his position on the 24th of September, which ended in the almost complete annihilation of the rebel army, thirty only escaping with their lives. The bodies of Saigo, Kirino, and of four other principal leaders, were found lying together, death having been caused by *seppuku*, or self-immolation. The heads had been cut off and buried, in order to prevent identification, but they were afterwards discovered, and, it is stated, were exposed in the streets of Kagoshima.

Thus has ended, however ill-advised may have been the attempt, a courageous effort on the part of the Satsuma clan to give effect to what, there can be little doubt, is a widespread feeling throughout the country. And so concludes the career of Saigo, than whom no one has taken a more prominent part in the affairs of his country, by whose energy and skill the overthrow of the Shogun, and the restoration to power of the Mikado, was chiefly accomplished, and to whom the present Government is indebted for its establishment in power. A native paper expresses the general sentiment when it says—"The people rejoice at the termination of the civil war, but there is a general feeling of the profoundest grief that so great a hero did not meet a happier end."

The country is now left with its old Government, and with an increased debt of over 38,000,000 dollars, which sum has been extracted from the Treasury for the suppression of the rebellion; with a declining revenue, an inelastic trade, only the most puny means accomplished to utilise its, no doubt, great mineral resources, and with a disaffection throughout it necessitating the maintenance of large forces.

The questions, therefore, now forced on the deliberation of the Government affect very closely the vital well-being of the country.

R. H. BRUNTON.

CHINESE EMPIRE
PALOUNG
MANDELAY
Amarapura
Ava
Blue R.
Chittagong
Arracan
Irrawaddy R.
Sittang R.
Prome R.
Pegu R.
Bassein
C. Negrais
Rangoon
Martaban
Moulmein
Amherst
Yeh R.
G. OF MARTABAN
Tavoy
Mergui
Tenasserim
Kiang Hung
Sanga kot
Simao
KHO NANG
HU TSE
KUI
SHAN
Kiangma or Zimme
Menam R.
Suthea
LEMET
Huten
LAOS
Mc Khong R.
SIAM
Ayuthia
BANGKOK
Bassak
Chantaboun
Bieu Ho
(SAMRE)
CAMBODIA
UDONG
Kampot
Hatien
Saigon
ANAMESE & CAMBOJAN
FRENCH POSSESSIONS
Cambodia Pt.
GULF OF SIAM
MALAYSIAN PENINSULA
SALANGI I.
TANTALAM I.
Sungora
Achin
C. Mt Abong Abong
George I.
PENANG
WELLESLEY PROVINCE
Perak
Tringano
Pahang
Mt Ledang
Malacca
Singkel
NIAS I.
Siak
Mt Ophir
Padang
N. PORA OR SI BIRU
NASSAU I.
Indrapura
Bencoolen
Palembang
Mt Dempo 12,000
VAMPUNG
ENGAÑO I.
Sunda Strait
Java H.d
BATAVIA
Mt Gadeh
Samarang
Surabaya
MADURA
BALINESE
LOMBOC
SUMBAWA
Sumbawa
Tomboro Vol.
APIE Volcano
SUMBA OR SANDALWOOD
KANGEANG
ANAMBA Is
NATUNA Ips
CARIMATA Is
BANCA I.
BILLITON
Banjarmasin
Kotaringin
Pasir
Macassar Strait
Celebes Sea
CELEBES
BUGIS
Gulf of Boni
Macassar
MACASSAR
SALAYER I.
Balabac Strait
Maludu
Mt Kini Balu 13,000
LABUAN I.
Brooke
BRUNAI (BORNEO)
DYAK
SOOLOO ARCHIPELAGO
SOOLOO OR MINDORO SEA
SOOLOO I.
TAWI TAWI I.
BASILAN
PALAWAN
CAGAYAN Is
NEGROS I.
PANAY
Iloilo
CALAMIANES Is
MINDORO I.
Calapan
MANILLA
LUZON
Cordilleras
Sierra Madre
Lingayen
C. Bolinao
BABUYAN Is
C. Bojeador
Pt. Ed
BASHEE
Balintang Chan
Bashee Channel
HAINAN
Kiungchau
Hainan Strait
Lienchau Penin.a
Choo-kiang or Canton R.
Macao
HONGKONG I.
Pakhoi
Lienchau
KESHO OR HANOI
TONQUIN
TON QUIN G.
ANNAM
HUÉ
Touron
PARACEL Is AND REEFS
Kwang Nai
Quinhon
Phuyen
CHINA SEA
Canton
Lung R.
Wuchau
North R.
East R.
Shauchau
Amoy
Swatau
Pescadore Ch.
PESCADORE OR PANGHU Is
Formosa Channel
FORMOSA
M.t Morrison 12,000
TAEWAN OR TAEWAN
Pakau
Sarawak
Kuching
Madei Mt.
Inga Ango Mt.
Bulangan
Tomi
Gulf
Koti
Kotaringin
Pasir
Banjarmasin
Java Sea
Sambas
Pontianak
Rhio
Laugga
C. Romania
Singapore & Str.
Strait
Malacca
Delli
Batta
Achinese
Mandailung
Tringano
Pahang
Perak
Wellesley Province
Penang
Tavoy
Mergui
Tenasserim
Salwen R.
Irrawaddy R.
Prome R.
Pegu R.
Sittang R.
Martaban
Moulmein
Amherst
Bassein
C. Negrais
Blue R.
Chittagong
Arracan
Ava
Amarapura
Formerly the Capital
Sanga kot
Simao
Kiang Hung
Kiangma or Zimme
Menam R.
Suthea
Huten
Mc Khong R.
Ayuthia
Bassak
Chantaboun
Bieu Ho
Udong
Kampot
Hatien
Saigon
Cambodia Pt.
Anamese & Cambojan
French Possessions
Gulf of Siam
Malayan Peninsula
Salangi I.
Tantalam I.
Sungora
Achin
Mt Abong Abong
George I.
Penang
Wellesley Province
Perak
Tringano
Pahang
Mt Ledang
Malacca
Singkel
Nias I.
Siak
Mt Ophir
Padang
N. Pora or Si Biru
Nassau I.
Indrapura
Bencoolen
Palembang
Mt Dempo 12,000
Vampung
Engaño I.
Sunda Strait
Java H.d
Batavia
Mt Gadeh
Samarang
Surabaya
Madura
Bali
Lombok
Sumbawa
Tomboro Vol.
Apie Volcano
Sumba or Sandalwood
Kangeang
Anamba Is
Natuna Ips
Carimata Is
Banca I.
Billiton
Banjarmasin
Kotaringin
Pasir
Macassar Strait
Celebes Sea
Celebes
Bugis
Gulf of Boni
Macassar
Salayer I.
Maludu
Mt Kini Balu 13,000
Labuan I.
Brooke
Brunai (Borneo)
Dyak
Sooloo Archipelago
Sooloo or Mindoro Sea
Sooloo I.
Tawi Tawi I.
Basilan
Palawan
Cagayan Is
Negros I.
Panay
Iloilo
Calamianes Is
Mindoro I.
Calapan
Manilla
Luzon
Cordilleras
Sierra Madre
Lingayen
C. Bolinao
Babuyan Is
C. Bojeador
Pt. Ed
Bashee
Balintang Chan
Bashee Channel
Hainan
Kiungchau
Hainan Strait
Lienchau Penin.a
Choo-kiang or Canton R.
Macao
Hongkong I.
Pakhoi
Lienchau
Kesho or Hanoi
Tonquin
Ton Quin G.
Annam
Hué
Touron
Paracel Is and Reefs
Kwang Nai
Quinhon
Phuyen
China Sea
Canton
Lung R.
Wuchau
North R.
East R.
Shauchau
Amoy
Swatau
Pescadore Ch.
Pescadore or Panghu Is
Formosa Channel
Formosa
M.t Morrison 12,000
Taewan or Taewan
Pakau
Borneo
Sarawak
Kuching
Madei Mt.
Inga Ango Mt.
Bulangan
Tomi
Gulf
Koti
Kotaringin
Pasir
Banjarmasin
Java Sea
Sambas
Pontianak
Rhio
Laugga
C. Romania
Singapore & Str.
Strait
Malacca
Delli
Batta
Achinese
Mandailung
Tringano
Pahang
Perak
Wellesley Province
Penang
Tavoy
Mergui
Tenasserim
Salwen R.
Irrawaddy R.
Prome R.
Pegu R.
Sittang R.
Martaban
Moulmein
Amherst
Bassein
C. Negrais
Blue R.
Chittagong
Arracan
Ava
Amarapura
Formerly the Capital
Sanga kot
Simao
Kiang Hung
Kiangma or Zimme
Menam R.
Suthea
Huten
Mc Khong R.
Ayuthia
Bassak
Chantaboun
Bieu Ho
Udong
Kampot
Hatien
Saigon
Cambodia Pt.
Anamese & Cambojan
French Possessions
Gulf of Siam
Malayan Peninsula
Salangi I.
Tantalam I.
Sungora
Achin
Mt Abong Abong
George I.
Penang
Wellesley Province
Perak
Tringano
Pahang
Mt Ledang
Malacca
Singkel
Nias I.
Siak
Mt Ophir
Padang
N. Pora or Si Biru
Nassau I.
Indrapura
Bencoolen
Palembang
Mt Dempo 12,000
Vampung
Engaño I.
Sunda Strait
Java H.d
Batavia
Mt Gadeh
Samarang
Surabaya
Madura
Bali
Lombok
Sumbawa
Tomboro Vol.
Apie Volcano
Sumba or Sandalwood
Kangeang
Anamba Is
Natuna Ips
Carimata Is
Banca I.
Billiton
Banjarmasin
Kotaringin
Pasir
Macassar Strait
Celebes Sea
Celebes
Bugis
Gulf of Boni
Macassar
Salayer I.
Maludu
Mt Kini Balu 13,000
Labuan I.
Brooke
Brunai (Borneo)
Dyak
Sooloo Archipelago
Sooloo or Mindoro Sea
Sooloo I.
Tawi Tawi I.
Basilan
Palawan
Cagayan Is
Negros I.
Panay
Iloilo
Calamianes Is
Mindoro I.
Calapan
Manilla
Luzon
Cordilleras
Sierra Madre
Lingayen
C. Bolinao
Babuyan Is
C. Bojeador
Pt. Ed
Bashee
Balintang Chan
Bashee Channel
Hainan
Kiungchau
Hainan Strait
Lienchau Penin.a
Choo-kiang or Canton R.
Macao
Hongkong I.
Pakhoi
Lienchau
Kesho or Hanoi
Tonquin
Ton Quin G.
Annam
Hué
Touron
Paracel Is and Reefs
Kwang Nai
Quinhon
Phuyen
China Sea
Canton
Lung R.
Wuchau
North R.
East R.
Shauchau
Amoy
Swatau
Pescadore Ch.
Pescadore or Panghu Is
Formosa Channel
Formosa
M.t Morrison 12,000
Taewan or Taewan
Pakau
Nos Beh (French)
I. St Mary (French)
Tananarivo
Madagascar
100
110
120
10
20
0
50
All rights reserved.

E.L.B. & R.N.C. 1878 N° 2

A LANGUAGE MAP OF FURTHER INDIA AND THE INDIAN ARCHIPELAGO

Scale of English Miles
100 50 0 100 200

REFERENCE

GROUPS

Aryan	Colored	
Tibeto-Burman	"	
Tai	"	
Mon-Anam	"	
Malayan	"	

NOTES. A mixed population is indicated by stripes of more than one colour.
Where the language has no name distinct from the tribe no entry is made.
The red pecked line indicates linguistic boundaries.
Names in brackets are dialects of the class denoted by the name in larger type.

110 120 130 20 10 0

Reviews.

—:o:—

A RIDE THROUGH ISLAM.*

"A Ride through Islam" is, perhaps, an exaggerated title, considering that it is *not* a ride through Islam—Islam is not contained between Poti on the Black Sea and Baku on the Caspian, or between "Enzeli" on the Caspian, and "Jacobabad" in Sind—but rather a ride through part of Islam. However, some portions of the writer's experiences on his journey are interesting at the present time, although written five years since for the Allahabad "Pioneer." His journey was attended with some danger though we were on the best terms with Persia, and on better terms with the Afghan ruler than we have been since the first Afghan expedition. Neither was the journey wanting in boldness on the traveller's part.

The Persian portion of the author's route may be passed over, since many accounts have been written by travellers who had greater facilities for observation than a few hours stay at a halting place, after a tiresome ride, could possibly afford.

Referring to the Caspian Sea, Captain Marsh says (p. 55) "The sea is called by the Tartars 'Ca-Aspian,' or Sea of the Horse Country, meaning Turkistan on the east coast, towards Khiva." Does he expect us to believe that? Did he ever hear a Tartar give that as the definition of it?

While Captain Marsh was on the "Ca-Aspian," he saw some of the Russian fleet taking military stores for Krasnovosk Bay, the starting point of one of the Russian columns for Khiva:—"Many Russian officers came on board," he says, "and, after dinner, while chatting over our wine and cigars, told us they hoped one day to take India from us, as it was their destiny to be paramount in Asia! just what they told Mignon in 1833, when they had taken Georgia."

With respect to the "corps diplomatique" at Tihran, the author says (page 73):—

> "The influence of the different embassies at the Shah's court entirely depends on the ambassadors personally. The Russians being able to coerce, and doing so freely, are of course the favoured nation; and through them, I believe, was granted the establishment of a line of railway from Resht to Teheran, and eventually to Bushire, the firm being the great speculator, Baron Reuter. From all I could learn, our influence has of late been *nil*. They understood our system of patting on the back (and thanks to the conduct of a late ambassador, a man of no good repute, and of no personal influence with the Shah), so that we are at a low ebb in point of consideration with the people and the court. The appointments to this mission ought to be for a limited tenure, for men of English blood and birth only, otherwise they become small-minded, and influenced by personal considerations."

The Captain slept one night at Damghan, which place we are informed (p. 81) "is noted for the battle fought between the Afghan Shah Mahmoud's heir, Shah Ashraf, and the afterwards famous Nadir Shah, then a robber chief, in 1729. . . . He was born in 1688, and murdered near Mushud, 1747." Nadir was a little more than a robber chief at the period in question. He had captured Mashad for the Sultan Tamasib, had brought him thither in triumph, and had reduced Hirat; the battle between him and Shah Ashraf was not fought at Damghan, but at Mihman-Dost; and Nadir was not murdered near "Mushud" nor "Meshed," but in the camp at Fath-abad, two leagues from Khabushan, about 100 miles north-west of the Mashad, which name means a tomb or sepulchre, and Mukaddas not "Mukudus."

Why will travellers, here to-day and gone to-morrow, inflict on the public their profound historical knowledge?—why cannot they leave history alone? It is something new to hear from Captain Marsh (p. 65) that "Teheran was entirely destroyed by the Afghans, and rebuilt by Aga Mahomed about the commencement of the present century." Agha Muhammad Khan, Kajar, merely fortified Tihran; and it is repeatedly mentioned, from the time of their expulsion, up to Agha Muhammad Khan's fortifying it.

Again, we are told (p. 87) that the people of the village of Abbasabad (in Khurasan) "are said *to have been* the descendants of an Armenian *or* Georgian colony of one hundred families, planted (there?) by Shah Abbas." The fact is that they are the descendants of a number of Kurd families transplanted from Kurdistan thither; and there are many more of them besides the inhabitants of Abbasabad.

Here is another specimen (p. 127) of travellers' history—a plunge headlong into the mire—Gohur Shah is turned into Shah Rukh's *mother!* She was his wife.

"Kohsan (a few miles west of Hirat) is said to have been a large fort and town, and to have withstood a long siege of *Jenghis* Khan." We need scarcely say, perhaps, that no such place was ever besieged by him, and that he was never at, or west of, Hirat in his life.

Again (p. 131):—"Herat, in 1716, was seized by the Sudozaie tribe of Duranees, and they held it till taken from them by Nadir Shah, after a long siege in 1731. Of its history more anon." Hirat was taken in A.D. 1707, and in A.D. 1727 Nadir finally took possession of it.

Speaking of the ruins on the "two elevations, near the city of Herat," the author says (p. 139) "Both these elevations are covered with ruins and remains of forts; and the former (Mosulla) with the magnificent ruins of the mosque and tomb of Sultan Hussein Mirza Bairam, one of the house of Timour, of the fifteenth century (1498), the elegant minars of which I saw long before I arrived at this city, and said to have been partially destroyed by *Chengis* Khan." Chingiz Khán *died* in August, A.D. 1227; Timúr was *born* in April, A.D. 1336; and Sultan Husain Bahadur Khan was Timúr's grandson, and yet his tomb "was partially destroyed by *Chengis* Khan!"

At p. 142, we are told that the Persians "used to be Sunnis also, previous to Nadir Shah's time, but he turned the nation into Shias." A great portion of the whole population of Persia are Sunnis still (but the Shi'ah is the State faith), and Nadir did *quite the contrary;* he reformed the religion, and abolished the sect of 'Ali or Shi'ahs. Nadir had on several occasions taken written promises from the Shi'ah people of Persia that thereafter abuse and revilement of the three first Khalifahs should cease; and one of the first to fall a victim to his wrath, on suspicion of being a Shi'ah and reviler, was his own eldest son Razza Kuli Mirza, whom he blinded.

One more specimen of Captain Marsh's history

*A Ride through Islam. By Captain H. C. Marsh, 18th Bengal Cavalry. (London: Tinsley, 1877.)

before we pass to some of the good points in his book. At page 181, referring to Kandahar, he says: "I could see out of my lofty look out, the hills of solid rock to the east on which was the ancient city of Candahar, first built by Babur in 1522 high upon the summits. . . . . The present city in the plains was built by the Duranee Ahmed Shah. . . . . Ahmed Shah, the chief of the Suddozaies, at the death of the Emperor (!) Nadir Shah, became Ameer of Afghanistan under the title of Dur-e-Dur-am *(sic)* in 1748. He also died here, in 1773; and was succeeded by his sons—Shah Zeman, Mahmud Shah, and lastly, Shah Shuju, whom we supported," &c., &c.

"Babur" did not build the ancient city of Kandahar; Ahmad Khan, Abdali never became Ameer of Afghanistan, but "Shah"; did not die at Kandahar, but at Murghab; neither Shah-i-Zaman, Mahmud Shah, nor Shah Shuja'-ul-Mulk were sons of Ahmad Shah; and they did not succeed him.

We now turn to other and better parts of this Ride. The author says (p. 185) that "Sher Ali's great fear is that of losing Balkh by means of a raid by Abdool Rahman, secretly helped by Russia," and which, in a foot-note, he says "is equally as true in 1877 as in 1873," and he is quite right. This 'Abd-ur-Rahman is the son of Sher 'Ali's eldest brother, Afzal Khan, who would have succeeded on the death of his father, had not Dost Muhammad nominated Sher 'Ali, his younger and favourite son. Sher 'Ali was however ousted by Afzal, who subsequently gained the supremacy with the aid of his son, 'Abd-ur-Rahman. After this Sher 'Ali again regained the authority with the aid of his son, Ya'kub Khan, to whom we shall presently refer. 'Abd-ur-Rahman eventually fled to the Russians after the death of his father, was pensioned by Kauffmann, of Turkman women and infant slaying renown, married a daughter of the ex-ruler of Badakhshan, Jahandar Shah, another disaffected chief, and is residing in Russian territory ready for any mischief or agitation, à la Bulgaria.

Captain Marsh's ideas of the political situation are generally sound, which arises from the fact of practical knowledge as an Indian officer, not the milk and water ideas of the stay-at-home politicians whose sight is limited to their own contracted horizon. He says (p. 202), writing in 1873: "The Eastern Question will not be settled by the taking of Khiva by the Russians, and *no central zone will protect us from at least the inconvenience of intrigues between Russia and Afghanistan.*"

Since that was written Khiva has been taken and annexed, Kokan gobbled up, the Amír of Bukhárá made a mere puppet, a large tract of territory on the shores of the southern Caspian has been stolen from Persia, and the last Muskov move is that they have lately established themselves on the Pámír, which is within 250 miles of our territory and of Afghánistán, and they now look down upon us, while the Secretary of State for India assures the nation, in Parliament, that the Russians are separated from our territory by 1000 miles of the most tortuous and difficult country in Asia.

The names of places are as badly treated as the historical part, in this, as in most books; and it is amusing to compare the writer's names with those contained in the new map of Persia published by the India Office. Both are incorrect, in most instances, for example: Deynemak, or Salt Village—Dey Namek; Lashgird—Lasgird; Bostan—Bostán (while Bustam is the name of the place); Budusht—Bidast; Subzewar—Sabzawar (for Sabzwar); Mehr—Mihr; Rewayat—Riwad; Zefferanee—Zafarani; Nishapore—Nishabur; Kudmgah—Kadamgah; Turbut Sheikh Hydree — Turbat-i-Haidari; the ancient city of Linger—Langar; Meshed and Mushud—Mash-had; Khaff—Khaf; Subush—Shabush; Khosan—Kosan; Rozanak—Rosanak; Ghorian—Ghurian, &c.; but the Captain gives the names, after a fashion, of several well-known places of which no mention whatever is made in the new map of Persia.

The better parts of the book are where the author gives us sketches of the prominent people, and eschews history. We will quote a few passages:—

"On my being introduceed to Yakoob Khan by the officers who had come with me from the frontier, he rose and met me halfway, shaking hands in European fashion. Having seated me on the small but rich carpet that formed his *musnud*, he sat close on my right, near the window that looked out on the large square. The rest of the room was filled by chiefs and officers of his army. He was dressed in a European military braided blue coat, with black trousers, socks, the Heratee sheepskin *kulla*, or hat, and a fine cloth *choga;* and his gold-belted sword lay in front at his feet. He is twenty-six years old; well-bred; has a pleasant, intelligent face; not very fair; middle height (5 feet 3 inches); small hands and feet; slight moustache, with a slightly retreating forehead; good voice. . . . . After tea and pipes were brought in, he began to speak to me in broken English about the troubles in his family, saying he was his father's most loyal servant; but the intrigues at Cabul, and the enmity between the Ameer's and his councillors and people, was so great, that although Lord Mayo had done all he could for him in trying to reconcile him to his father, it was of little good. 'I know,' he said, 'the very fact of my speaking to you in your own language will be reported at Cabul, and will be put down to me as hatching some intrigue against my father.' I asked him why he did not come and visit India, like his father. He said—'I should be most happy to do so, and have often desired to go and see the tumasha of India, but do not dare to leave my government, lest in my absence it might be given to my younger brother Abdoola.' He asked me if I had seen his armoury and gun-foundry. On this I tried to explain to him that the duty of a good ruler was not to give all his attention to his army, but also to encourage trade and agriculture, make roads, protect traffic, &c. &c. 'I know' he said in Persian, 'you English desire trade and peace, and that your wealth comes from your good arrangments; but I have first to secure my seat here by force of arms, before I can think of aught else. Herat is very poor, and I can hardly hold my own; but in me you have a well-wisher to your Government, and, if possible, I shall copy their policy.' Here I made him understand about my not being on Government duty, and that anything I said was not of an official description, but only to show my personal friendship. . . . . If the British Government do not foster him as he deserves (he is one who will turn out of quite another stamp to his father), they will regret it when too late. Now he is young, with a mind capable of taking good impressions, which ought to be forced on him by the gentle pressure of personal influence. If he should become soured by neglect and unfair treatment at the hands of his father, and we do nothing to uphold him, then we may expect his bitter hatred; and of this I am certain—from his character, and from the accounts of his influence in this part of the country—that he will not tamely submit to be deprived of his natural rights; and, in case of his younger brother, Abdoola Jan, being made heir to the throne of Cabul, if Yakoob does not succeed in taking the country by force of arms, he, at least, will receive such support from his own people that the State of Herat will be again torn from the Kingdom of Cabul. We shall again see Abdool Rahman, Esah Khan, and Co., as candidates for at least a portion of Afghanistan, viz. Balkh and Kundooz (which, however, are not in Afghanistan), and the rest of the country will be in as great a state of anarchy as before Dost Mahomed's time—which God forbid."

The author obtained some news on his way of the Perso-Afghan Mission. He says—

"It was told me by one of Sir Frederick Goldsmid's servants, and the people in these parts all believe the same story:—'I went with my master to Seistan, to the town of the Jooaim, held by Sirdah Mahomed Ali Khan. Another town is Lash, the Governor of which is Sirdar Sultan Ahmed Khan. Shureef Khan Belooch has a fort of his own. Taj Mahomed Khan has another fort, but is now imprisoned at Teheran. The Sahib was six days at Jooaim before the General Sahib (Pollock) joined him. As soon as the General arrived from Candahar, with all his *fouj*, or escort of cavalry and infantry, the Persians refused them any sort of provisions, even for money; so it had to be brought from Furrah, four days off. We all remained here together *four days*, when, not getting any supplies, we marched for Meshed, which we reached in twelve days.'"

The traveller was received like a prince in many places, especially at Kandahar; and his reception is a good specimen how a solitary Englishman was treated just after Sher 'Ali's visit to Lord Mayo, and when the Afghans were beginning to forget our former hostility towards them. How would he have been received now since this Quetta menace? His life would have been in danger, we trow. In winding up his "Ride through Islam" he says: "I consider the occupation of Quetta by our native troops as a false move; but if they were withdrawn and a Political Officer be established permanently at the Court of the Khan of Kelat, we should enjoy all the advantages of a spirited move, without any of its drawbacks."

——:o:——

STANFORD'S COMPENDIUM OF GEOGRAPHY AND TRAVELS. Based on Hellwald's "Die Erde und ihre Völker." Africa. Edited and extended by *Keith Johnston, F.R.G.S.* (Stanford, 1878.)

MR. KEITH JOHNSTON has amplified the work of Von Hellwald by dwelling more fully on those parts of Africa which have been explored by English and other travellers, while Hellwald has devoted the largest share of attention to the labours of Germans. The present work has thus expanded until it has reached two or three times the size of the original upon which it is based. It thus forms a complete general view of the present state of knowledge of African geography.

In its present form the book is admirably designed, and Mr. Keith Johnston, who is well qualified for the task, has worked up the details with judgment and ability. Each division of the continent is treated separately, and illustrated by a coloured map, and there are also a number of well-selected woodcuts. No better book could be placed in the hands of the student of African geography, and it will be found most useful as a work of reference. A valuable paper by Mr. A. H. Keane on the philology of the African races forms an Appendix.

——:o:——

FIFTEEN THOUSAND MILES ON THE AMAZON AND ITS TRIBUTARIES. By *C. Barrington Brown* and *William Lidstone, C.E.* (Stanford, 1878.) Pp. 520. Map and 25 Wood Cuts.

MR. BROWN and Mr. LIDSTONE were sent out by the Amazon Steam Navigation Company, in 1873, to select and report upon certain territories allotted to them by the Government of Brazil, on the banks of the Amazon and several of its tributaries. The authors were two years in the country and had specially good opportunities of seeing it to advantage. They made good use of those opportunities, and their volume contains excellent pictures of scenes and circumstances as they found them in the valley of Amazon. They explored several tributaries which are very little known; and to the geographers their chapters on the rivers Trombetas, Jurua, Yavari, and Jutay have special interest.

The Amazon is, undoubtedly, the grandest river in the world. There is no river in Asia or Africa which is worthy to be compared with it; while some of its tributaries are still unexplored. The Amazonian region deserves a far larger share of attention than has hitherto been given to it by geographers, and we therefore heartily welcome the appearance of so excellent a book of travels as that of Messrs. Brown and Lidstone; for their picturesque descriptions of scenery cannot fail to attract more attention to the region they have explored so well.

Log Book.

——:o:——

Hans, the Eskimo Traveller.—In our next number the publication will be commenced of the Memoirs of Hans Henrik, the Eskimo traveller; during his service in the Arctic Expeditions of Kane, Hayes, and Hall, and of Sir George Nares. The memoirs were written by Hans himself in the Eskimo language, and have been translated by Dr. Henry Rink, Director of the Royal Greenland Board of Trade, and edited by Professor George Stephens, F.S.A., of Copenhagen. Dr. Rink, on perusing these memoirs in the Eskimo original, which were forwarded to him by Mr. Krarup Smith, from Disco, found that he had never read any adventures in the far north, which, relatively to their brevity, were so curious. Besides setting forth many strange and interesting adventures, every line helps us to understand the Eskimo people, by reflecting their ideas and their mental development in the person of the author of the memoirs.

Mr. Cross in Colombia.—Mr. Cross, whose valuable Report on the India-Rubber trees of Brazil was published in our numbers for June, July, and August, 1877, is now employed in collecting plants of two valuable species of chinchona plants, namely that known as the "Calisaya de Santa Fé," and the *C. cordifolia*, in the forests of Colombia. He penetrated to the unexplored banks of the river Caqueta or Japura near its source, and having made a good collection of plants of the "Calisaya de Santa Fé," he returned with them to the town of Popayan on the 22nd of last October, having successfully surmounted the great difficulties which such a perilous journey entails. On the 26th he again left Popayan for Paniquita and Sylvia, to make a collection of the *C. cordifolia*, yielding the "hard Carthagena bark" of commerce. He intended to remain in the Popayan district, in order thoroughly to establish the plants, until the beginning of January, when he will return to England, whence the plants will be forwarded to the chinchona plantations in India.

The Abbé Desgodins on the course of the Brahmaputra River.—The Abbé Desgodins, in a letter of the 28th March last, gives some interesting information regarding the course of the Sanpu or river of Tibet. This information he obtained by an old lama, who, during his youth, had travelled a great deal in Tibet. This lama stated he had made a pilgrimage along the course of the great river from its

source at or near the Tso-ma-pang lakes in the west of the province of Ngari, to the frontiers of the savage tribe of the Lhopa. He stated that some days' journey east of Lhasa, the river turns southward with a long bend, and traverses the Tibetan district of Hia-yul, a well-populated and rich district, governed by the Kalun Doring of Lhasa, and lying immediately north of the Lhopa. In its course through this country it passes between sharp, steep bare rocks, without any roads, and the only method of passing which is by means of indifferent rope ladders. After flowing for some distance through the Lhopa country, the river falls perpendicularly into a valley unknown to the lama. The height of the fall is so great as to cause dizziness. At this point the river is almost as large as the Kincha-kiang at Bathang or the Mekong at the salt mines. It does not reach the country of the Nahongs or Mishmis, but disappears more to the west near the country of the Lhopa or Abords. This information the Abbé considers is all the more worthy of credit, as it exactly confirms what had previously been told to him by a slave (see our number for January, 1877, p. 15.)

Journey through China to British Burmah.—Lieut. Gill, R.E., has arrived at Rangoon after a most successful journey through China. In February last he left Shanghai and travelled to Hankow by steamer. From Hankow he went to Chung Ching, at the invitation of Mr. Baber, a member of the late Grosvenor Mission, and then a trip was made northwards for a little distance. At Tsi-liu-tsing the fire wells were seen, some 3,000 feet below the surface, and also the brine wells. From Tsi-liu-tsing, Lieut. Gill went to Cheng-tu, from thence to Sung-panting, on the borders of Koko Nor, and on to Liung-ngan-fu. The return to Cheng-tu was made by a different route. Here he was joined by Mr. Mesny, of the Chinese service, and then began their long, perilous, and arduous journey to Burmah overland. Cheng-tu was left on July 10, Ta-chien-lu was reached on the 25th, distant about 291 miles. Here they were most hospitably received by some French priests with whom they remained a fortnight. This station was left for Lithang, which was made in two days. The next station was Bathang, some 307 miles from Ta-chien-lu, and this was reached on August 25. Bathang is almost in the 30th degree of latitude, and quite on the borders of Tibet. From Bathang the travellers went to Atun-tze, a distance of 170 miles, which they reached on Sept. 5. Atun-tze was left on Sept. 9, and Talifu reached on the 27th, a distance of 361 miles being traversed. The next station was Man-wyne, where they arrived on Oct. 24; and Bhamo on Nov. 1. Lieut. Gill speaks of the natives as quiet and far from hostile. But he describes that part of the journey from the point at which he was joined by Mr. Mesny as very arduous, graphically comparing it to "continually going up a staircase." There are no roads, the way consisting of mere tracks through a rocky, mountainous country. In the neighbourhood of Bathang, ranges were crossed some 15,600 feet high. On their way down from Mandalay it is said these gentlemen were struck at the difference between the two political sections of the country—native and British Burmah. In the latter the cultivated fields, smiling homesteads, and contented looks of the people offered a striking contrast to that obtained in the other.

New Russian Map of Central Asia.—The new map of Russian Turkistan and adjacent countries, in 12 sheets, prepared at the Russian Topographical Department in St. Petersburg, embraces a large extent of country from west of Orenburg on the one hand as far as Kobdo on the other, while southward it includes the south-east angle of the Caspian, the basin of the Oxus, the Muztagh Range and Khotan. There is a vast amount of detail in the map, which is altogether an elaborate and careful production. It is the first map we have seen embodying the results of the recent Russian surveys on the Alai Plateau, and in connection with this it is noteworthy that the line denoting the Russian frontier no longer runs along the range between the Little Alai Plateau and the Kizyl-Su, but has been pushed southward, so as to include the Great Kara Kul Lake, and up to a point about 80 miles from its former position. The new boundary forms a huge tongue or peninsula jutting out into the region called the "Roof of the World," and approaching ominously close to Lake Victoria, which formed the terminus of the demarcation line fixed upon in the Anglo-Russian deliberations in 1872. Colonel Prejevalsky's explorations south of Lob-Nor have not been embodied in this map, but there is a good deal of detail inserted there instead, which is, however, of a very unreliable description.

Correspondence.

—:o:—

ON THE KARAKORAM MOUNTAINS.

To the Editor of the "GEOGRAPHICAL MAGAZINE."

SIR,—In answering Mr. Robert B. Shaw's courteous strictures in the *Geographical Magazine* for December last, I beg him to believe that my allusions to "the observer on the spot" were not so much intended to be applied to himself personally as to travellers in general, whose criticisms are too often found by geographical judges to be applied to great objects from observations of insufficient extent.

I hope, also, that he will excuse me for remarking that there is no occasion to raise his general question of "Water-partings *versus* Ranges," because it has been amply elucidated in elementary works, of which Lavallée on *Physical, Historical, and Military Geography*, is an example. The treatise on the Himalaya which has elicited Mr. Shaw's present communication abounds with illustrations of the distinction often existing between ranges and water-partings; and I do not think that this question is involved in the different views which we appear to take on the Karakoram Range.

In my paper on the "Himalayan System," in the *Geographical Magazine* for July last, I have pleaded for the adoption of a distinctive name for the mass which unites the two watersheds of Lake Lob and the Indus. The culminating summits of the south-western slopes of this mass form a lofty range, to the whole extent of which (as defined by the coincidence of the Lob and Indus basins) I have given the well-known name of Karakoram Mountains. This name was originally confined to the most frequented pass across these mountains, just as the names of hills in England are often applied in the neighbourhood only to the roads which pass over them. Mr. Shaw divides the length of this range into two parts. The western part, up to the

head of the Nubra Valley, he calls the Muztak, in reference to a pass of that name which no European has yet traversed. The eastern part he allows to be called the Karakoram, so far as it coincides with the water-parting; but the main range is taken by Mr. Shaw further to the south along a formidable spur which divides the Nubra from the Shyok, and this he calls the Eastern Muztak. It may be well to note that the usual spelling is Mustagh, from Turkish words signifying a snowy or ice mountain. Karakoram means Black Gravel.

I object to Mr. Shaw's method of nomenclature because it fails to define by one name a feature distinguished by the water-parting of two great river basins. I see no reason for substituting the little known Mustagh for the well known Karakoram. It remains for me to explain why I regard as the main range, the mountains east of the Upper Shyok to those on the west of that river and between it and the Nubra River.

If any of my readers are disposed to follow this argument on a map, they are recommended to use Sheet 7 of Major T. G. Montgomerie's Trans-Frontier Maps, which, although only in outline, gives the rivers and glaciers, with the positions and altitudes of the observed peaks. The fourth sheet of Colonel Walker's Turkistan, revised up to 1875, embraces the area on a smaller scale, with hill shading; but the latter, like Mr. Shaw's delineation of the great ranges, cannot be said to aid the research. There is also the quarter sheet of the Indian Atlas, with the hills, including the Karakoram Pass; but the adjoining quarters to the south and east, which are necessary for this discussion, are not finished.

Referring then to Major Montgomerie's map, let me recommend the water-parting to be clearly traced in pencil or colour. Then the question to consider is whether the main range may be deemed to be coincident with it.

The prominence of the range between the Nubra and Shyok Rivers is so remarkable, that Mr. Shaw may well be excused for allowing it to draw him away from the water-parting. But when we find one class of evidence of a conflicting character, it is wise and proper to bring other considerations to bear upon the question. Thus, it will be seen on the map, that although the Nubra-Shyok Range reaches an altitude of 25,000 feet, yet the slope of the mass, as indicated by the fall of the rivers, follows the trend of the range, showing that on the whole, the elevation of the water-parting is superior, and deserves the appellation which distinguishes it as the main axis of the system. In this view we are supported by the maps both of Major Montgomerie, and of Mr. Frederick Drew, late Governor of Ladak, in his work on the Jummoo and Kashmir territories. Instead of ignoring Mr. Shaw's range, as he says, the fact is I treat it, like many others, as secondary. Mr. Shaw asserts that the eastern part of the Karakoram is devoid of bold eminences. I point to observations of 20,673 feet, and 21,638 feet at the head of the Karakash River where my Karakoram Range terminates.

It is necessary to observe that Mr. Shaw's map does not represent the true direction of the Nubra-Shyok Range, as it really extends between those rivers, down to the great bend of the Shyok. This being the case, it may be asked how Mr. Shaw proposes to prolong the range? Authentic materials for that work will be found in Sheet 8 of the Trans-Frontier Maps. It should be remembered that the eastern end of the Karakoram lies between the head-waters of the Karakash and those which feed the lakes and swamps of the Lingzethung Plain, where the Gangri system begins. It is the connection of the Gangri system with the Karakoram that Mr. Shaw is invited to solve, so as to connect his "Mustak" with it in a symmetrical manner.

With regard to the Tibetan Plateau, I have treated its extent as an open question, and have placed the subject before the public in various points of view; one of which, extending the term up to the Southern Himalaya, would comprehend all that Mr. Shaw names. I prefer to distinguish the Himalayan from the Tibetan Plateau, and also the elevated lacustrine basins of the Tibetan Plateau from the river basins which surround that remarkable feature. Mr. Shaw appears to be confounding physical with political geography, and to be forgetting that Western Tibet is an exploded term as applied to Zanskar and Ladak, which he is well aware have ceased to be Western Tibet since their acquisition by Kashmir. He might as well reckon Alsace to be still a part of France.

Yours, &c.,

TRELAWNEY SAUNDERS.

———:o:———

THE PALÆOCRYSTIC SEA.

To the Editor of the "GEOGRAPHICAL MAGAZINE."

SIR,—Previous to the voyage of the 'Alert' and 'Discovery' to the Polar Sea, there was a very widely spread idea that an "open Polar Sea" existed in high latitudes. The term had even been used in an official document. When we discovered a sea covered with the heaviest ice ever met with—through which it will never be possible for any navigator to force his ship—I considered it to be my duty to contradict such former assertions in the most decided manner possible. Hence the adoption of the word "palæocrystic," to designate an unnavigable sea of ancient ice.

As a sailor unlearned in Greek, I have long been expecting the term to be criticised. Other words have lately been proposed, but they are all long and somewhat difficult to pronounce. However, as my object has now been attained, and the belief in an "open Polar Sea" is considerably shaken, if not given up completely, I think that it will be better to drop any special name, and to leave future Arctic explorers the ice alone to combat, without asking them to face the imaginary terrors of a "Palæopagetique" Sea.

Yours, &c.,

G. S. NARES.

Proceedings of Geographical Societies.

———:o:———

ROYAL GEOGRAPHICAL SOCIETY.

Meeting of 26th November 1877.

ON taking the chair, the President, Sir RUTHERFORD ALCOCK informed the meeting that the two papers about to be read referred to the Continent of South America. The first, on Bolivia, was by Captain Musters, who had resided there for some years, and had obtained much valuable information, which enabled him to correct the errors of our maps. The second paper, by Mr. Clements Markham, related to other unexplored parts of the South American Continent.

COMMANDER G. C. MUSTERS, R.N., then read his paper on

NOTES ON BOLIVIA.

He commenced by stating that one of the least known of the South American States, which were formed after the final overthrow of the Spanish dominion in South America was the Republic of Bolivia, or Upper Peru as it was called previous to 1825. The Republic of Peru borders it on the west, the Empire of Brazil to the north and east, the Argentine Confederation to the south, and Chile to the south-west. It thus occupies the centre of the continent, and includes about 13 degrees of longitude and 16 of latitude. The most important territories of the republic are comprised in the Altaplaciniæ, or table-land of the Andes, and the spurs and valleys of the Eastern

Cordillera, the immense outlying savannahs and forest land to the north and east want development. Commander Musters's experience was confinedto the former of these regions, which he compares to a gigantic Switzerland. The maritime department of Atacama may be regarded merely as a distant and rather inaccessible outlet. He described the famous lake of Titicaca (which belongs partly to Peru) and its outlet, Desaguadera River, which, after a course of 200 miles, flows into Lake Aullagas. The latter lake, which receives the downpour from the rainfall and melting snows of the Cordillera, appears to have no outlet, though the Indians speak of a subterranean outlet or whirlpool at the southern end. The chief cities of the republic (Oruro excepted) are situated at the foot of, or among the spurs of the eastern chain of, the Andes, this district being the commercial, political, and social life of Bolivia. The head-waters of the Amazon and La Plata also rise there. After describing in detail several of the cities visited by him, foremost of which was La Paz with a population of 80,000, situated close to Lake Titicaca. Commander Musters pointed out that the mineral riches of Bolivia ought to be her mainstay—gold, silver, copper, tin, antimony and bismuth, existing all over the country. The secret of the poverty of Bolivia lay in her revolutionary spirit which he thought would be remedied by improved means of communication.

Mr. CLEMENTS MARKHAM next read his paper, ON THE STILL UNEXPLORED PARTS OF SOUTH AMERICA, which we give *in extenso*, see page 8.

A brief discussion followed, in which Mr. ALEX. T. BAILLIE, who had lately visited Paraguay, one of the provinces which bordered on Bolivia, said that he was surprised that hardly any reference had been made to the communications already established, and were now being carried out from Bolivia down to Paraguay, and so to the Atlantic. A road was now being made between Corrientes, through the Chaco into Bolivia; and he had met a number of people who were continually passing and repassing between the two countries. This road would afford a means of communication which would take the place of the route to the small port held by Bolivia on the Pacific coast.

Mr. MATTHEWS was sure that Captain Musters's notes and maps would be of great service in throwing light upon a country which had not hitherto received the notice it deserved. He first made acquaintance with Commander Musters in Bolivia, and had great pleasure in bearing testimony to the accuracy of his observations. One or two points of the paper, however, he wished to refer to. He did not know if Commander Musters had given the latest boundary between Bolivia and Chile. By a treaty ratified in 1875, Bolivia had given up about a degree of coast line, which was a very serious loss. He was sure the Meeting would join with him in regretting the absence of Colonel Church, the indomitable pioneer of the opening up of Bolivia by the eastern route of the Amazon. Perhaps he himself was the only Englishman who had ascended the rapids of the Madeira River. Several had gone down them, but the ascent was a work of five or six times as much trouble, on account of the time it occupied. The two principal affluents of the Madeira Mr. Markham had so fully noticed that it was unnecessary for him to refer to them, except to mention that a great deal of gold was found in the districts between Bolivia and Peru, and most of the streams descending to that region from Brazil had auriferous sands. He agreed with Commander Musters that there could be little doubt that Bolivia was the most highly metalliferous country in the world, but he also claimed for it importance as an agricultural region. The road across the Gran Chaco, he thought, could never be made available for any great amount of traffic, because during six or eight months of the year it was perfectly impassable, going through vast swamps. The northern provinces of Brazil would, however, afford a ready market for the agricultural produce, and that industry, if developed, would in a great measure quiet the country and prevent the revolutions that were so frequent there, as the financial poverty of the country, which arose from the turbulent spirit of the people, would be removed when they had work to do.

The PRESIDENT said the conclusions which might be drawn from what had been told them were, first, that the rising generation of geographers need not weep because they had no unexplored regions to discover, for there was abundant scope for all their energies for 50 or 100 years to come; and secondly, that those who had visions of a Malthusian nature might learn that there were vast territories abounding in mineral and agricultural resources, which would supply any increase in the population for the next 1000 years.

Meeting of 11th December, 1877.

Sir RUTHERFORD ALCOCK, President in the Chair.

The business of the evening consisted in the delivery of the first of the three lectures on Physical Geography, which it was decided should be given during the present session.

The lecture was delivered by Professor P. MARTIN DUNCAN, F.R.S.

ON THE FORMATION OF THE MAIN MASSES OF THE LAND.

The lecturer commenced by saying that some years since a very suggestive sentence was frequently spoken by Sir R. Murchison—namely, "Being a geologist, I am an ancient geographer." The phrase enunciated his belief in the sisterhood of the sciences of Geography and Geology. It bound the present and the past in a great philosophy, and was a protest against the assertion that the face of Nature had been unchanged, and that the great features, the study of the geographer, the delight of the traveller, the charm of the artist, and the contention of races, were formed at once and were without any relation to the distant past. The opinions and theories involved in the brief sentence of Murchison's were common to the most educated geologists many years ago. Advanced thinkers held that as the present aspect of nature on the globe was foreshadowed in the past, so each successive mutation of the surface was evolved in the womb of time, and retained impressions of its ancestry. Lyell, following his great master Hutton, insisted on there being a close connection between geographical and geological science. He thus defined his favourite branch of knowledge:—"Geology is the science which investigates the successive changes that have taken place in the organic and inorganic kingdoms of nature; it inquires into the causes of these changes, and the influence which they have exerted in modifying the surface and external structure of the planet." Hutton, a century since, inculcated the slow progressive changes of the surface of the earth under the influence of the same agents which produce changes now, and taught that geographical knowledge in its widest sense must precede geological study. "The ruins of an older world," he wrote, "are visible in the present structure of our planet, and the strata which now compose our continents have been once beneath the sea, and were formed out of the waste of pre-existing continents. The same forces are still destroying by chemical decomposition or mechanical forces even the hardest rocks, and transporting the materials to the sea, where they are spread out and form strata analogous to those of more ancient date. Although loosely deposited along the bottom of the ocean, they become afterwards altered and consolidated by volcanic heat, and then reared up, fractured, and contorted." From the days of Hutton downwards there has been a clear scientific light shining through the intelligence of the great teachers of advanced geology, which has relieved the dull monotony

of geography, elevated it to its proper position in natural science, and environed it, as the outcome of the past, with a philosophic causation. "The geologist is an ancient geographer," and his highest aspirations are to be able to restore the animate and inanimate nature of each of the chapters of the great book of Nature, and to prove that the great land-masses are the sum of all the geological changes of the past within and without the earth. The great land-masses were in the midst of deep oceans, and arose from the floor very abruptly in some localities and less so in others. The old nautical rule of the deep sounding being close to the highest coast line held good in the main, but more soundings in abyssal waters were required before any relation as regards depth and the east and west of continents could be enunciated satisfactorily. It was evident that if the whole of the land-masses were considered as upward and the ocean floors as downward curves on the service of the globe, the sum of the depressed areas was vastly greater than that of the land. The relation of land to sea floor was as 51 to 146 in millions of square miles, and the average height of the land was not more than 900 feet, the average depth of the water being about 15,840 feet, or as 1 to 153·6. The idea that the continent sloped very gradually to the profound depths of their limiting oceans must be abandoned, and it was evident that marine erosion of the coast, assisted by sub-ærial denudation, would alone account for the partial shallowness of the sea in some places near land, and not for the sudden dip to great depths. Some parts of continental areas had not the stability of others, and slight, slow elevation and corresponding subsidences of considerable tracts have been recorded. There was hardly a coast line which did not present either a raised beach or a sunken forest, and did not contain the remains of creatures or plants whose species existed in the sea or on the land close by. The great land-masses were composed of mineral substances, the origin, contents, position, age, and changes of which were the peculiar study of the geologist. These substances were arranged, for the purposes of easy study, into sedimentary strata, rocks of an eruptive origin, and those which apparently underlie all others, the hypogene and eminently crystalline. Most of these strata collected in water, as washdown of earth or as gradual deposit of dead things, and a relatively small number accumulated on dry land or in the lakes, rivers, and swamps. There was a regular order in the succession from below upwards of the strata, and they were grouped in great vertical series into so many formations. A stratum might be considered a leaf of the history of the world, and the formation as a chapter. Each chapter was a physical geography *per se*, and illustrated a fresh landscape or sea view." Having investigated and illustrated the subject at great length, the lecturer concluded as follows:—"Clearly, all the mutations of the great land-masses have been under law, and the vicissitudes of the surface have resulted in the present geographical distribution of land and sea. The great factors of surface denudation belong to other energies than those which upheaved and modelled the land, but the action of all has been continuous and harmonious. The mysterious energy of life, incarnate on the ever-varying globe, has ever evolved new forms, partly under the influence of consecutive changes in its physical conditions. Thus this old earth, so varied in its landscape, so diversely ornamented with an abundant flora, so characterised by its interdependency of animal life, owes all its beauties to a process of development ruled by the mysterious environment of the Creator. The geography of every great land-mass has been inherited. The older its ancestry, the greater is the beauty and diversity of the surface; and the more frequent the geological revolution, the more charming the valley, the upland pass, and the distant hills shelving to the plain. On the other hand, the greater the long periods of quiescence in the past, the more monotonous is the present land surface, and the more antiquated are its flora and fauna in appearance. In the first instance, variety in nature and its characteristic geography favour civilisation and all that is æsthetical; and in the last, the image of the former geography is impressed upon man, beast, and flower, and monotony and barbarism reign supreme."

The PRESIDENT remarked that it was unnecessary for him to point out the comprehensive character and scope of the instructive lecture to which they had listened. Professor Duncan had maintained the scientific character of the courses of lectures instituted by the Council, and had fully demonstrated the intimate connection between geology and geography. Some of the very startling things that they had heard would give them food for reflection for a long time. The present aspect of nature was the outcome of all the past geographies, and it was impossible to feel interest in the surface of the earth as it now existed without having also a very deep interest in knowing how it had been produced, and what had been in various ages the successive geographies of which there were palpable traces in the geology of the earth. Among the many things in the lecture which had surprised him was, that what was facetiously called the New World appeared to be the oldest continent, and in all probability had existed before Europe itself. The President concluded by moving a vote of thanks to Professor Duncan for his very interesting lecture.

———:o:———

FRENCH GEOGRAPHICAL SOCIETY.

November 7th, 1877.—M. LEVASSEUR presiding. A letter was read from the Governor-General of Algeria, enclosing two letters from the Jema'a of Insalah, strongly opposing M. Largeau's projected journey through the Insalah territory. The PRESIDENT stated that, in consequence of these difficulties, M. Largeau would seek to reach the Niger River by another route. Announcement was made that Lieutenant de Semellé proposed to start soon for the mouth of the Niger, with the intention of ascending it as far as the confluence of the Benue. From thence he intends to travel up the latter river to its source, and then to work across eastward to the Shari, and having explored this last river pretty fully, to make for the Lakes Albert and Victoria, and finally to strike the east coast about Mombasa or Malinde. M. de Semellé had obtained the necessary permission from the War Minister, and the President offered him the best wishes of the Geographical Society for the success of his expedition, which is undertaken at his own expense. M. Vaux, French Consul at Mogador, forwarded a set of three months' meteorological observations at that town, and furnished a brief account of a visit paid by him to the Canary Islands. Regarding Dr. Crevaux in Guiana, it appeared, from a communication from the Minister of Public Instruction, that he had been detained virtually as a prisoner in the Buis country, and that the natives had tried to starve him, but that in spite of this and of bad attacks of fever, he had made an examination of the mineral resources of the country, and hoped soon to push on to the Tumachumac Mountains. The International Society for the formation of a Canal across the Isthmus of Darien sent a report on their exploring labours, and stated that Lieutenant N. B. Wyse would start on a fresh expedition on the 7th November last, to complete his previous work, which had been broken off by the rains. Announcement was made of Dr. Harmand's return from Cochin China.

M. HAMY gave an account of certain unpublished narratives of Spanish travels in the sixth century, and M. HAYAUX DU TILLY read a paper on the results of Lieutenant Cameron and Mr. Stanley's African explorations. M. DELESSE presented a work on the levelling operations in the department of the Nord. The entire cost (including that of the map) was 156,000 francs

(6240*l.*), of which the Department paid about three-fifths, and the State the remainder. The total united length of the series of levels is 4,788 kilometers. The map is on seventeen sheets, which are sold separately at one franc apiece. The department of the Nord comprises an area of 568,387 hectares, and its density of population (*i.e.* 255 inhabitants to the square kilometer,) is four times as great as that of France generally.

November 21st, 1877.—M. LEVASSEUR presiding. The President announced that the next general meeting was fixed for the 19th of December, and that papers would then be read by M. VILLAIN on the ascent of Illimani, by Dr. HARMAND on Cochin China, and on the ascent of Cococatapett by M. D. CHARNAY. He also stated that Lieutenant de SEMELLE whose expedition to Africa had been mentioned at the previous meeting would start for Africa on the 15th January.

M. MAUNOIR, the Secretary, read a letter from M. Ch. de Ujfalvy, giving notes on the district of Kuldja, formerly the Chinese district of Ili. He describes the climate as very mild, the duration of winter being only two months. It is admirably suited for colonisation, but the Russians have refused permission to intending settlers, as they calculate on handing the territory back to the Chinese. The valleys of the Ili and its affluents are very fertile and produce rice, cotton, wheat, and all sorts of fruits, but owing to the long succession of wars and rebellions through which the country has passed, the population has decreased from 2,000,000 to barely 130,000.

M. G. GRAVIER gave an account of the Congress of Americanists—a Congress convened for the study and elucidation of the history, archæology, and ethnology of the American continent. The session was held in the town of Luxemburg, under the patronage of the King of Holland; and the different meetings, which amounted to seven in all, were devoted to series of papers on the ancient pueblos or town-builders, by Mr. Edwin Barber; on the mound-builders of America, by Mr. Robertson, these mounds being large structures somewhat like the Cæsar's camps in England and France; on the colonisation of North America in the fourteenth century; the colonies of Markland and Estotiland; the discovery of the Mississippi by Cavalier de la Salle; the travels of Christopher Columbus, Vespucci, Verrazzano; the various voyages of discovery made to the shores of North and South America; and the antiquities and remains of Central America, Greenland, &c.

Dr. HARMAND gave a brief account of his travels along the Mekong and its affluents in Cochin China, and M. SIMONIN read a paper on the distribution of gold and silver over the face of the globe.

———:o:———

LYONS GEOGRAPHICAL SOCIETY.

Annual Meeting of 29th November, 1877.

M. LOUIS DESGRAND, President, in the chair. The President referred to the changes being carried out in the method of stamping letters passing through the post, by which all letters will be stamped with the name of the department, as well as that of the town from which they emanate. Several railway companies had agreed to furnish, at each station, geographical particulars respecting each locality, and the Eastern Company had taken the initiative in this direction as regards the line between Paris and the Mediterranean. Reference was made to the discussions which had taken place in the monthly meetings of the Society regarding the projected line of railway from Algeria to the Niger River. M. DUPONCHEL, an engineer of note, had been commissioned by the Government to investigate the scheme.

Dr. LORTET then read an exhaustive paper on the coast of Syria and the towns situated thereon, from Alexandretta to St. Jean d'Acre.

———:o:———

IMPERIAL RUSSIAN GEOGRAPHICAL SOCIETY.

November 26th (*December 8th*), 1877.—M. DE UJFALVY gave an account of his travels along the upper course of the Zarafshan and in other parts of Ferghanah. He started in January last, journeyed for nearly a year, and succeeded in making a large collection of archæological remains and ethnological details regarding the different tribes inhabiting the country.

———:o:———

HAMBURG GEOGRAPHICAL SOCIETY.

November 1st, 1877.—Dr. KIRCHENPAUER presiding. Herr EDWARD LIPPERT gave an account of a four weeks' sojourn in the diamond fields of South Africa, and Professor EISENHARDT read a paper on Mr. Gladstone's Homeric researches.

———:o:———

ITALIAN GEOGRAPHICAL SOCIETY.

December 3rd, 1877.—Il Commendatore CORRENTI presiding. The PRESIDENT delivered a brief address in which he referred to the Italian Expedition to Shoa, the Gessi-Matteucci Expedition, and to the formation of an Italian Committee under the presidency of Prince Humbert, in connection with the International African Association. Announcement was made that Count Telfener had placed a sum of 40,000 lire at the disposal of the Society, to encourage the study of commercial geography.

Il Commendatore NEGRI read a paper on Scientific Geography. He referred to the great strides which this branch of knowledge had made, especially since the Napoleonic wars, and, noticing the progress made by Italy, called special attention to the hydrographical surveys executed in the Adriatic, off the Ionian islands, and the Tyrrhenian Sea; the approaching triangulation of Sardinia, the marine investigations and surveys off New Guinea, Patagonia, and Japan, and minor works of the same class. A brief exposition of the Darwinian theories was given by the author; but the larger part of his paper was reserved for publication *in extenso*, the extracts read being simply those deemed of most general interest.

NOTICE.

The Office of THE GEOGRAPHICAL MAGAZINE *is at 57 & 59, Ludgate Hill, E.C.*

Manuscripts sent to the Editor cannot be returned, nor can the Editor be responsible for them.

Letters and Articles intended for insertion should be written on one side of the paper only, and must be accompanied by the name and address of the writer; not for publication, but as a mark of good faith.

The right of translation is reserved.

Annual Subscription and Postage, £1, Inland. Foreign Orders must be accompanied by P.O.O. or Cheques to include the full amount of Foreign Postage. Post Office Orders to be made payable to Messrs. Trübner & Co., 57 & 59, Ludgate Hill, London, E.C.